SEPTEMBER, 1960

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1H6	5/-	5 a	£1	6K6	7/6	3 a	£1
1K4	5/-	5 a	£1	6K7	5/-	5 a	£1
1K5	5/-	5 a	£1	6L7	5/-	5 a	£1
1K7	5/-	5 a	£1	6N7	7/6	3 a	£1
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	5/-	5 a	£1	956	5/-	5 a	£1
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Valve type 1625, **5/- ea.; or 5 for £1.** Ideal for use in Class B Zero Bias Modulators. See article August "A.R." p. 3.

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VK2WI: Sundays, 1100 hours EST, simultaneously on 3573 Kc., 7146 Kc., and 146.0 Mc. Intrastate call-backs taken on 7050 Kc.,

VK3WI: Sundays, 1030 hours EST, simultaneously on 3573 and 7146 Kc., 51.016 and 146.35 Mc. Intrastate hook-ups taken on 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 7146 Kc. and 14.342 Mc. Intrastate hook-ups taken on 7105 Kc.

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EDITORIAL

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THE T.V. RECEIVER

NOW that both A.B.C. and Commercial t.v. stations are in operation in all Australian capital cities, the P.M.G's. Department is likely to receive many complaints of interference to reception. Many of these complaints, though a lot will be unfounded, will be laid at the door of the Amateur who is an established and well known member of most communities. It is due to the fact that a number of these complaints may emanate from other authorised communication and similar services, and not the Amateur, that the Institute has some cause for concern.

The Amateur Service, like the Broadcasting Service (to which the t.v. services belong), is an approved service along with many others, all of which are capable of causing interference to t.v. reception, especially if situated in bands in close proximity to t.v. channels. The proximity and closeness of such services is brought about by the increasing demands for more and more frequency space, and the need to make the greatest economical use of the frequency spectrum.

The aforementioned services, including the Amateur Service, are required by regulation to meet certain conditions and standards of operation, designed to achieve these economies. Are the manufacturers of t.v. receivers keeping up with progress and with better circuitry in the same way?

Due to the competitive nature of the t.v. receiver manufacturing industry, improvements have generally been made in the latest receivers resulting in cheaper sets. However, the r.f. and mixer stages, in which this interference is likely to give the most trouble, have changed very little and still leave a lot to be desired in selectivity and to some extent, shielding. If these two aspects of receiver design have not benefited in the way of imprvoed circuitry, front-end blocking from adjacent transmitters can give a lot of trouble to the set owner. Once the novelty has worn off, the set owner becomes aware of imperfections in his received picture and will lodge a complaint if such trouble continues.

Surely it is not too much to ask that manufacturers of sets incorporate the most selective and shielded circuits possible in their products so that the set owners, the Amateur and the P.M.G's. Department obtain some relief. Alternatively, should the A.B.C.B., who regulate such matters, tighten up their requirements for t.v. receivers? The competitive market may result in a new sales gimmick—"Buy our superduper shielded receiver and rid yourself of interference". This is one sales slogan, if true, the Amateur would welcome.

FEDERAL EXECUTIVE

THE CONTENTS

Using Silicon Rectifiers and T.V. Components in Amateur Power Supplies

S. T. CLARK,* VK3ASC

DURING the last eighteen months silicon rectifiers have become available on the Australian market. To date, the only references I have seen regarding their use in power supplies for Amateur equipment have appeared in "QST," "CQ," and the February 1960 issue of "Short Wave Magazine". It was not until they were mass produced for use in television sets that prices decreased. Even now, silicon rectifiers will cost more than thermionic rectifiers for many applications, but they have advantages that make them worthwhile.

This precis of current trends shows how we may benefit from their use.

As with most items of electronic equipment, silicon rectifiers have certain disadvantages and these must be borne in mind when designing equipment. To date they are not available in a full range and direct replacements for valves are not yet available. [Warburton Franki, agents for International Rectifiers, can supply most types, as can Mullard and A.W.A.—Ed.]

The two factors which the Amateur needs to keep firmly in mind are: **The Peak Inverse Voltage Rating** (p.i.v.) and the fact that their **Thermal Inertia** is very much less than that of thermionic, selenium or copper oxide rectifiers.

For years we have been prone to use valves such as the 5Y3GT, 5U4G, 5V4G and 83 beyond their ratings, but this cannot be done with silicon rectifiers.

The advantages of silicon rectifiers can be summed up as follows:—

1. They are much more efficient than other types, i.e. up to 99%. [Based upon power input versus power output.—Ed.]
2. They are much more compact than other types.
3. They require no filament power. In transmitters this usually means a transformer is saved.
4. They have an indefinite life if used within their ratings at all times.

The types Amateurs are likely to use are:

1N1763—R.C.A./A.W.V., or Raytheon.
OA210—Philips or Mullard.
SD94A—International Rectifier.
M500 or 40K—Sarkes-Tarzian.

All of which are rated at half amp. average current and 400 p.i.v.

Some types of somewhat higher p.i.v's. are available, namely:

1N1764 and SD95 (500 p.i.v.);
OA211 and OA214 (800 and 700 p.i.v. respectively).

The units used in my experiments have been 1N1763, which are rated at half amp. average d.c. with a capacitor input filter in half wave service, with an a.c. source of 140 volts r.m.s.

Figures are design maxima and in conjunction with their respective peak recurrent ratings of 5 amps. and surge or "turn on" ratings, should not be exceeded.

Manufacturers quote their ratings in different ways. These different methods need to be consolidated into a common system which can be used by all Amateurs designing equipment. Culling through the published figures available, shows that there is not a great deal of uniformity about the method of rating a silicon rectifier. All makers appear to be unanimous on one point only and that is the p.i.v. which is 2.82 times the applied r.m.s. voltage, for a capacitor input filter (hence 400 ÷ 2.82 = 142 volts r.m.s.; usually expressed as 140 volts r.m.s., which is a practical round figure). For quick and easy calculating it is easy to say p.i.v. divided by 3 and so allow a safety factor by reducing the figure by a further 10% for a.c. mains voltages do vary.

Makers of 400 p.i.v. rectifiers recommend values of 117 and 127 volts r.m.s. Some manufacturers show the maximum r.m.s. rating as twice this figure (280 volts) and then as a footnote state that it is only to be used with a purely resistive or inductive load.

PEAK RECURRENT RATING

This is the maximum permissible current occurring on each half cycle. R.C.A./A.W.V. and Raytheon data shows 5 amps. for the 1N1763 and Philips/Mullard the same figure for the OA210. Full data is not available on other types, but experience and the information which is available indicates that the peak recurrent ratings will be the same except perhaps in the case of the Sarkes-Tarzian type 40K which is rated at 750 mA. average and therefore probably 7½ amps. peak recurrent.

The maximum **surge** or "turn on" transient rating is another important figure which differs between manufacturers. Raytheon say 10 amps. for 0.1 second, R.C.A./A.W.V. 35 amps. for 0.02 second, and Philips say that the switch on surge should be limited to 25 amps, but do not quote a time.

Readers may refer to "Radiotronics" for June and September 1959 for details of the 1N1763 and 1N1764, and to **Miniwatt** "Germanium and Silicon Transistors and Diodes," Fifth Edition, for details of the OA210, OA211 and OA214. [Warburton Franki furnish full data sheets for all their rectifiers.—Ed.]

In some circuits it may be necessary to limit the "switch on" current to a safe figure by increasing the source resistance. In most Amateur designs, transformers will be used and these have finite primary and secondary resistances which may be sufficient to limit the peak recurrent and surge currents to safe values.

Philips, on page 81 of their publication, show how to calculate the source resistance after taking a few simple resistance measurements on the transformer being used. When a transformer is present between the mains and the rectifier

$$R_t = R_s + N^2R_p + R_l$$

where R_t is the total effective resistance in ohms.
R_s is the secondary resistance in ohms.
R_p is the primary resistance in ohms.
R_l is the additional series resistance (if any) to be added.
N is the turns ratio.

Taking a typical t.v. power transformer, the primary resistance (230v.) is 11.8 ohms, secondary 67 ohms. The turns ratio is close enough to 2 : 1. Therefore $R_t = 67 + (4 \times 11.8)$, i.e. 114 ohms. This is more than adequate for our purpose, in fact the regulation of the supply is very largely dependent on the transformer itself.

In our rectifier circuit we will need to use one eight hundred p.i.v. or two 400 p.i.v. units in each leg of the bridge across the 450 volts secondary with an effective series resistance of 114 ohms which limits the short circuit current to 4 amps.

CHECKING THE TRANSFORMER

The previous method is a fairly safe way of getting the right result, but it is possible to make a mistake in your calculations and so ruin the silicon rectifiers. To eliminate this possibility it is advisable to make an additional check on the transformer to ensure that the effective resistance is satisfactory.

To find the effective internal resistance of the transformer, measure the secondary voltage with no load, measure again with a convenient load (mine was two 60w. lamps in series), subtract the latter from the former and divide it by the current flowing and you will have the effective resistance.

$$(450 - 423) \div 0.2 = 27 \div 0.2$$
$$= 135 \text{ ohms.}$$

Measuring open circuit voltage and short circuit current is another method and gave the following result

$$450 \div 3.8 = 118 \text{ ohms.}$$

Warning.—These are alternating voltages and currents you are measuring and you must have an alternating current ammeter. A voltmeter alone is not sufficient. **Only close the switch** for long enough to take a reading. With a low voltage applied to the primary of the transformer, the value came out at about half the real figure, possibly due to improper excitation.

The output voltage available across the first filter capacitor, with no load, is 450 × 1.42 = 620 v.d.c., which is also applied across the rectifiers on the negative half cycle, and so the chain must be rated at 1,240 volts minimum. Four 400 p.i.v. units in series across this supply provides a safety margin with a p.i.v. rating of 1,600 volts.

(Continued on Page 11)

* 68 Jensen Road, East Preston, Vic.

The Design of the R1155*

GENERAL CIRCUIT ARRANGEMENT AND AMATEUR BAND APPLICATIONS

THOUGH of vintage 1940, the R1155 has remained one of the most popular "surplus" receivers for Amateur-band operation, largely because it is still easy to buy. Intended originally for aircraft operation as the companion unit for the well known T1154 transmitter—discussed in some detail in the December 1955 issue of "The Short Wave Magazine"—the design of the R1155 is basically very good. (It was prototyped by the Royal Aircraft Establishment, Farnborough, and manufactured under contract in large quantities by several well known radio firms.) In Service use, the receiver was found to be easily adaptable for ground-station working.

A great many Amateurs have since made the same discovery, and today there are few operators in this country who are not aware of the R1155, even if they do not own one. It is also of interest to add that the design of the Radiovision "Hambander," in its time another very successful receiver, was largely inspired by the R1155.

CIRCUIT ARRANGEMENT

The diagram of Fig. 1 is a simplified version of the communication circuits of the R1155—in the airborne application, it also provided direction finding and homing facilities by a direct-reading course meter, but those functions are not discussed here because they are of no practical interest from the Amateur Radio point of view.

To make it easy for those possessing an R1155, and wishing to know more about its interior, the circuit nomenclature used in Fig. 1 follows that of the Service Manual on the receiver.

The communication circuitry amounts to r.f., f.c. and two i.f. stages into a detector-output valve, with separate valves for a.v.c. operation combined with b.f.o., and a "magic eye" visual tuning indicator. (The latter is not

* Reprinted from "The Short Wave Magazine," May 1957.

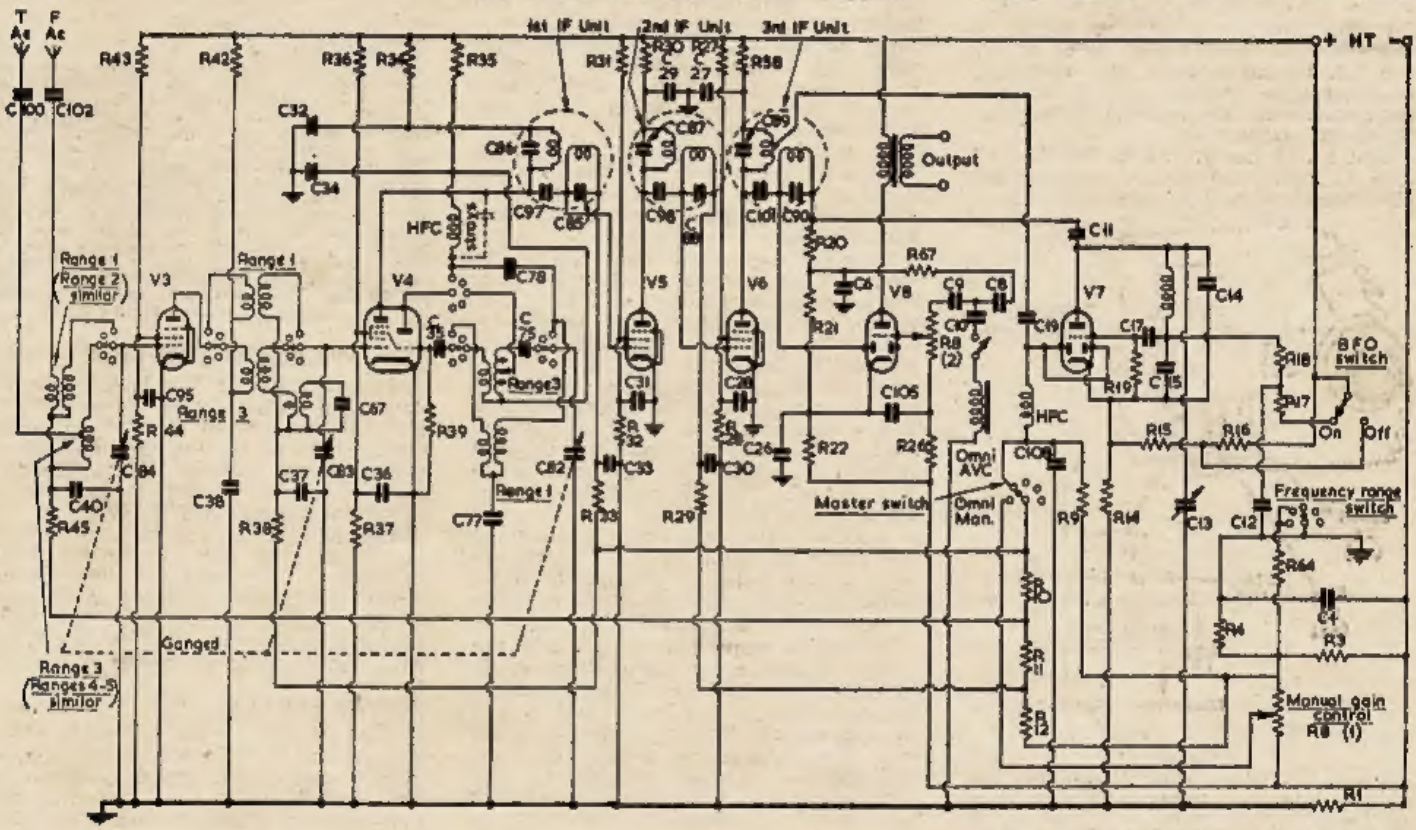


Fig. 1. Simplified diagram of the R.1155 communications circuits, discussed in the text. T.Ae is the "trailing" (long wire) aerial connection, which goes to Pin 2 of the Plug P1 (see Fig. 2) and F.Ae is the "fixed" aerial, corresponding to any short wire of 25-40 feet, going to Pin 1; in certain circumstances, better results will be obtained by trying either one of these. The KTW62 at V3, V5, V6 is now obsolete, as is the MHLD6 at V7, V8, but supplies are available from "surplus" sources. The Z66 at V4 is a current-production type (G.E.C.). Pluggable equivalents of these valves in current production are the W61 (or earlier KTW61) for V3, V5, V6, with the DL63 for V7, V8. The IF of the R.1155 is 560 kc, on the HF side of signal frequency, with a selectivity factor of 5 kc.

C1—2.5 μF.
C6, C11, C17—100 pF.
C8, C9, C19, C102—0.001 μF.
C10—0.004 μF.
C12, C25, C27, C28, C29, C30, C31, C32, C33, C34, C36, C37, C38, C40, C105—0.1 μF.
C13—75 pF, semi-variable (see text).
C14—0.0018 μF.
C15—0.00455 μF.
C35, C103—200 pF.
C67—0.002 μF.
C75—537 pF.
C77—0.00617 μF.
C78—15 pF.
C82, C83, C84—Main tuning gang assembly.
C85, C86, C87, C88, C90—300 pF.
C89—600 pF.
C95—0.5 μF.
C97, C98—2 pF.
C100—200 pF.
C101—4 pF.
R1—2,000 ohms.
R3—1,200 ohms.
R4—120 ohms.
R8(1), R8(2)—50,000/500,000 ohm dual potentiometer (see text).
R8—2 megohms.
R10, R11—150,000 ohms.
R12, R16, R27, R31, R36, R43—27,000 ohms.
R14, R22—1,000 ohms.
R15—30,000 ohms.
R17—1,500 ohms.
R18—10,000 ohms.
R19, R20, R39—56,000 ohms.
R21—470,000 ohms.
R26, R29, R33, R38, R45—100,000 ohms.
R28, R32, R35, R37, R44, R67—22,000 ohms.
R30, R34, R42, R58—2,200 ohms.
R64—200 ohms.
Note.—Circuit nomenclature as Service Manual.

shown in Fig. 1.) The audio output, while being adequate for headphones, is not sufficient for a speaker.

Since the R1155 is a general-coverage receiver, it suffers (from the Amateur viewpoint) by reason of having no bandspread. This means that the 7 and 14 Mc. bands cover only a few notches on the dial. Moreover, the 21 and 28 Mc. bands are not tuned at all, nor is 160 metres—a very severe disadvantage. The short-wave coverage is 3.0 to 18.5 Mc., meaning that the R1155 can be operated as it stands only on the 3.5, 7 and 14 Mc. Amateur bands. It is very good on 80 metres.

Effective bandspread can be obtained by putting a small 10 or 15 pF. variable capacity in parallel with the oscillator tuned circuit; as this capacity will only sweep a small proportion of any one h.f. tuning range, tracking will not be seriously affected, though of course calibration will be put out.

To get on to 15 and 10 metres a converter arrangement is necessary, while for Top Band it is possible either to employ another converter, or to modify the m.f. tuning range 3 (600-1500 Kc.) to cover 1800-2000 Kc., as explained in the September 1956 issue of "The Short Wave Magazine."

The i.f. of the R1155 is 560 Kc., h.f. side of signal frequency, with adjustable dust-iron core i.f. transformers.

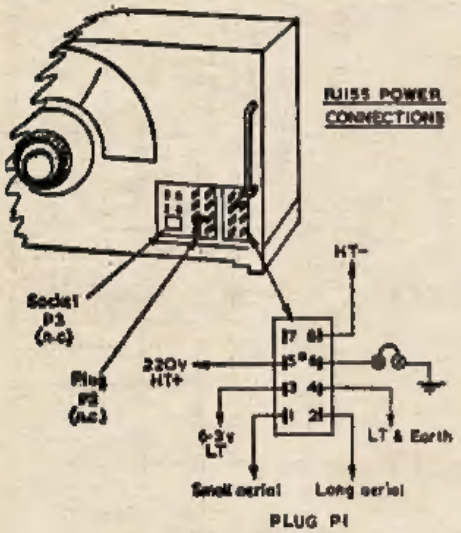


Fig. 2.

This sketch is to locate the R1155 power plug and its connections, looked at from the front (as the receiver is viewed). To operate the set as a normal communications receiver, socket P3 and plug P2 are ignored, connections as shown being made to P1. The headset can be connected across pins 6-4 or 8-8 if pin 4 is earthed, as shown here. Pin 7 connects h.t. plus to V1, V2 which are the d.f. valves, not used at all in the communications application; these circuits are only brought in when the main (right-hand) panel switch is moved to the "balance," "visual" and "00" positions.

VALVE SUBSTITUTION

The original valve types were: VR100 for V3, V5, V6, equivalent to the CV1100, which is the old Osram KTW62, replaceable by the later G.E.C. W61 (KTW61). V4 used a VR99, also named CV1099 and actually a Z66, still in the current G.E.C. range; and for V7, V8 the type was a VR101 (CV1101) which is the original Osram MHLD6, now obsolete, but replaceable by the G.E.C. DL63 double-diode triode. (The equivalents mentioned here are directly pluggable, without re-wiring of any sort being necessary.) The "magic-eye" is a V1103, which is the same as the G.E.C. Y63 in the current range.

Unless the receiver is bought as "brand new, unused, in original packing," one of the first things to do is to give it a new suit of valves.

A.V.C. AND B.F.O.

When the master switch is in the "omni" position, the gain of V3-V4-V5-V6, together, can be controlled by potentiometer R8(1), the resistor network being so arranged that (at 220v. h.t.) any negative voltage from about —4 up to —30 volts is given by the slider of R8(1).

With the master switch at "a.v.c.," the gain of stages V3-V6 inclusive is controlled automatically by the level of the incoming signal, with R8(2) as the manual audio gain control.

Since in the actual design R8(1) and R8(2) are ganged together to the one knob marked "volume control," from a study of the circuit it is evident that with the master switch at "omni," R8(1) only is operative—with R8(2) out of circuit—while with a.v.c. on, audio gain R8(2) alone is available. This means that there is no manual control of **audio** gain, by itself, when a.v.c. is off, the output being in effect controlled by R8(1), as a "manual a.v.c." knob.

It is for this reason that one of the modifications sometimes advocated is the physical separation of R8(1) and R8(2), so that they can be used independently; in fact, this modification is not really necessary.

In the a.v.c. circuitry, the degree of bias is proportioned between V3-V6 in such a way as to give a sort of "graduated control," in the interests of good signal-noise ratio. That is to say, while V4, V5 take the full a.v.c. bias volts, V3 gets half this voltage, and V6 only one-tenth. The a.v.c. delay is about 13 volts, and the resulting a.v.c. characteristic is such that a change in input signal of 80 db. only produces a variation in output level of 8 db.

The triode section of V7 provides the b.f.o., the Colpitts oscillator being tuned to half-i.f., i.e. 280 Kc. What should be the variable pitch b.f.o. control is C13 in the circuit diagram. In the R1155 it is fitted not as an independent control, but for screwdriver ("fixed") adjustment. An obvious improvement here is to put in a condenser which can be knob controlled.

OUTPUT END

The maximum attainable audio output is 100 mW. which is ample for a headset, but, as already mentioned, means that an additional l.f. valve must be fitted for speaker operation—see under "Power Supply".

In the output side of the set there is incorporated an l.f. filter or noise limiter consisting of a choke with condensers C8, C9, C10, controlled by a switch. The purpose of this is to suppress all audio frequencies below 300 cycles, which it does most effectively; it works very well on high-level peaky noise and "sharsh."

Also on the output side there is a tuning indicator V10—not shown in the circuit of Fig. 1—which is driven off the a.v.c. line (the full a.v.c. is always applied to the magic-eye tube, irrespective of whether a.v.c. or manual gain controls are used); hence, it could easily be replaced by an S meter unit operating on the principle of that described elsewhere in this issue.

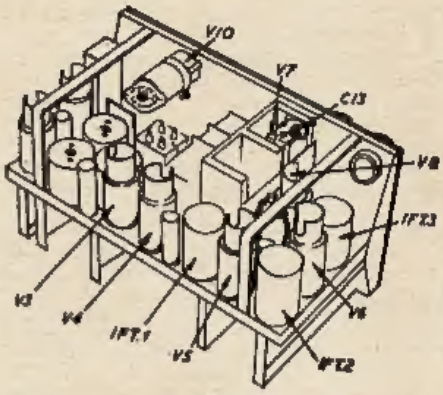


Fig. 3.

Outline sketch of the R1155 (chassis, rear view) to locate main items shown in the circuit at Fig. 1. Valves and canned coils not marked here are for the d.f. function of the receiver, and could well be removed, together with the connections to the "balance," "visual" and "00" positions of the main panel switch. V10 is the magic-eye tuning indicator (not shown in the Fig. 1 circuitry) and is driven off the receiver a.v.c. line, its grid being connected to the top end of R9 in Fig. 1. V10 could be replaced by the current G.E.C. type Y63, which is pluggable, or the magic-eye assembly removed altogether and replaced by an S meter. All elements marked in this sketch correspond to the Fig. 1 nomenclature, and are as given in the Service Manual on the R1155.

THE AUXILIARY CIRCUITS

The circuitry of the R1155 also incorporates three further valves (V1, V2 and V9, not shown in Fig. 1) which are additional to the communications section of the receiver. These auxiliary circuits are there only to provide for direction finding and homing. In the sketch at Fig. 3, the circuit elements associated with the d.f. functions are unmarked; they can, in fact, be removed altogether, to leave more space on the main chassis, since they play no part in the operation of the R1155 as a communications receiver.

POWER SUPPLY

The R1155 is not self-powered—in Service use, a complicated arrangement of h.t. and l.t. generators, driven off the aircraft main electrical line, was involved—so that another "modification" called for is the provision of a standard type of a.c. power pack. This should give about 60 mA. at 220 volts h.t., with 6.3 volts at 3 amps. or so for l.t.

In some modifications a 6V6 (or G.E.C. KT63) as output audio amplifier is built on to the same chassis as the power pack, to form a complete unit operated externally to the main receiver. In this case, the grid connection for the output amplifier can be taken off pin 6 of the power plug P1—see Fig. 2.

The sketch at Fig. 2 locates the power inlet plug and its pin connections. The other two entries, plug P2 and socket P3, can be ignored; they are the connection points for the d.f. function of the receiver, including the remote reading visual course indicator.

FURTHER INFORMATION FROM THE SERVICE MANUAL

As an aid to readers, the following information is extracted from the Service Manual.

The frequency ranges are:—
Range 1—18.5 to 7.5 Mc.
(no d.f. on this range)
„ 2—7.5 to 3 Mc.
„ 3—1500 to 600 Kc.
„ 4—500 to 250 Kc.
„ 5—200 to 75 Kc.

On Range 4 the aerial should be loaded by 80 pF. There is an i.f. wave trap in the signal grid circuit of the first mixer. Standard type i.f.t. are used with capacity coupling between coils to give a bandpass of 5 Kc. The Colpitts b.f.o. circuit is tuned to 280 Kc. 3 Kc. and second harmonic injection is used.

FAULT FINDING

The following is the official component tests for the points named:—

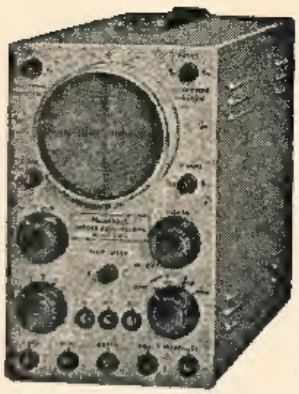
Components	Test Points	Resistance or Voltage
I.F. Coils:		
L19 P.	V4 anode to R34, C32	2 ohms
L19 S.	V5 grid to R33, C33	
L20 P.	V5 anode to R30, C29	
L20 S.	V6 grid to R29, C30	
L21 P.	V6 anode to R58, C27	
L21 S.	V7 diode to R20, C11	
B.F.O. Coil, L22	Fixed plates C13 to R18	5 ohms
Limiter diode choke L28	V6 diode limiter	130 ohms
A.V.C. choke L25	V7 diodes to C108, R68	130 ohms
L.F. filter choke L29	S5 switch to earth	2,020 ohms
Output transformer L30	(P.) V8 anode to pin 5 power plug	1,528 ohms
	(S.) pin 6 power plug to earth	1,063 ohms
Aerial circuit:		
Range 1 input	V3 grid to C40 junction	less than 1 ohm
„ 2 „		less than 1 ohm
„ 3 „		less than 3.5 ohms
„ 4 „		less than 11 ohms
„ 5 „		less than 78 ohms
V4 input circuit	V4 grid to C37, R38 junction	less than 1 ohm
Range 2	Switch to R2	less than 1 ohm
„ 3	„ „ R3	less than 3.5 ohms
„ 4	„ „ R4	less than 11 ohms
„ 5	„ „ R5	less than 78 ohms
Oscillator anode coil	Range 3—C34, R35 to C75	2.5 ohms
	„ 4—C34, R35 to C74	4.5 ohms
	„ 5—C34, R35 to C73	8.5 ohms
V4 oscillator circuit	V4 osc. grid cond. C35 (ZF12 contact) to joint R35, C34	
Range 1	Switch to R1	infinity
„ 2	„ „ R2	infinity
„ 3	„ „ R3	1,600 ohms
„ 4	„ „ R4	1,650 ohms
„ 5	„ „ R5	0.5 ohm
H.F. Ranges 1 and 2	ZF12 to ZF6, Ranges 1 and 2	0.5 ohm
	Ranges 3, 4 and 5	infinity
Oscillator anode coil taps	ZR6 to C35 or ZR12:	
	Range 1	infinity
	„ 2	infinity
	„ 3	1,600 ohms
	„ 4	1,600 ohms
	„ 5	1.5 ohms
Output transformer	Withdraw meter plug, measure between pin 6 and C93	1,528 ohms
L.T. volts	Withdraw meter plug, measure across plug 4 and 5	6-7.5 volts
H.T. volts	Measure across plug 4 and 6	200 volts
Standing bias: V3, V4, V5, V6	M.F. R12 and chassis. Remote V/C to omni-max.	—3 volts
	H.F. R12 and chassis. Remote V/C to omni-max.	—1.5 volts
D.C. resistance across H.T. pos. & H.T. neg.	Withdraw meter plug, measure between pin 6 and chassis	11,000 ohms
A.F. oscillator	Withdraw meter plug, measure between pins 7 and 8, using A.C. volt ranges	"slow," 28 volts "high," 35 volts
Colour Code Wiring	Red—H.T. positive Yellow—H.T. negative Blue—L.T. positive Green—grids Black—earth.	
Switches	W is aerial input, X is grid V3, Z is grid and oscillator V4.	
Valves	V3 is R.F. amplifier, variable mu tetrode. V4 is 1st mixer, triode hexode. V5 is 1st I.F., V6 is 2nd I.F., V7 is B.F.O. and A.V.C. V8 is detector, output, meter limiter. V9 is meter switching.	

The WARBURTON FRANKI Page

HEATH KITS

Build your own Electronic Instruments for HALF THE COST

Step by step assembly instructions supplied with each kit



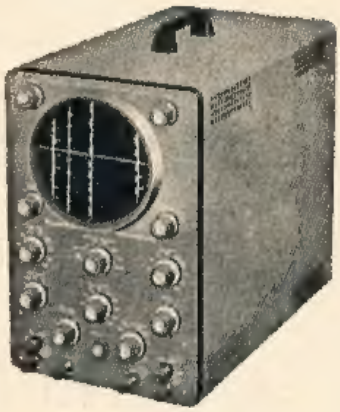
HEATHKIT OS-1, 3" SERVICEMAN'S 'SCOPE

Y AMPLIFIER:

Sensitivity: 10 mV. (r.m.s.) per cm. (X1 input).
Frequency Response: Plus or minus 1 db., 10 c/s. — 1.5 Mc.
Plus or minus 3 db., 10 c/s. — 2.5 Mc.
Input Impedance: X1 attenuator input — 1 M. shunted by 20 pF.
X10 attenuator input — 10 M. shunted by 10 pF.
Input Circuit: Built-in blocking capacitor rated at 600 volt DC.
Y Shift: DC type permits placement of undeflected trace at any horizontal level on usable area plus or minus 2 cm. from centre of screen. Positioning is instantaneous.

X AMPLIFIER:

Sensitivity: 1 volt (r.m.s.) per cm. at 1 Kc.
Frequency Response: Plus or minus 3 db., 150 c/s. — 500 Kc.
X Shift: Approx. plus or minus 2½ cm. from centre.



HEATHKIT O-12, 5" OSCILLOSCOPE

VERTICAL CHANNEL:

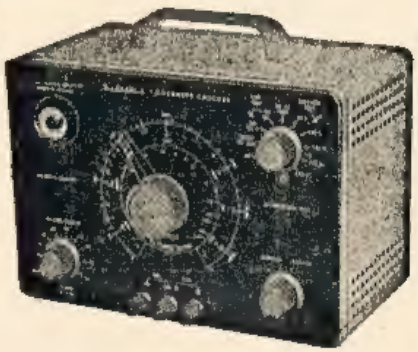
Sensitivity: 0.025 volt (r.m.s.) per inch at 1 Kc.
Frequency Response: Flat within plus or minus 1 db. from 8 c.p.s. to 2.5 Mc. Flat plus 1.5 to minus 5 db. from 3 c.p.s. to 5 Mc. Response at 3.58 Mc., minus 2.2 db. (All response measurements referred to 1 Kc.)
Rise Time: 0.08 microseconds or less.
Overshoot: 10% or less.

HORIZONTAL CHANNEL:

Sensitivity: 0.3 volt (r.m.s.) per inch at 1 Kc.
Frequency Response: Flat within plus or minus 1 db. 1 c.p.s. to 200 Kc. Flat within plus or minus 3 db. 1 c.p.s. to 400 Kc.
Attenuator: Low impedance type in cathode follower output.
Input Characteristics: Selector switch permits use of external input through panel terminal, line-frequency sweep of variable phase or internal sweep from sweep generator.
Horizontal Positioning: DC type, permits wide range of positioning to examine any part of trace even with full horizontal gain.

HEATHKIT C-3U, RESISTANCE-CAPACITANCE BRIDGE

AC powered, highly portable, a real time-saver, reliable and very simple to use. Measures a wide range of capacitance (0.0000l to 1,000 µF.), Power Factor, and also indicates Leakage. Polarising voltages of from 5 to 450 volts are available. The Model C-3U measures Resistance (100 ohms to 5 megohms) too. All readings are taken from the large calibrated scales direct; no calculations are required. Bridge-balance (null-indication) and also Leakage is indicated by means of a dual-sensitive Magic-Eye electronic beam. For safety reasons the entire instrument is isolated from the supply mains by means of a double-wound transformer, the secondary of which delivers the DC polarising voltages via a selenium rectifier for reliability and efficiency. The C-3U's on-off switch disconnects BOTH mains leads from the transformer's primary winding when switched off.



HEATHKIT SG-8, R.F. SIGNAL GENERATOR

Align tuned circuits quickly and easily with this fine kit. Also useful in tracing signals in faulty RF, IF and audio circuits. Designed for general service applications, the SG-8 covers 160 Kc. to 110 Mc. on fundamentals in five bands and from 110 Mc. to 220 Mc. on calibrated harmonics. The entire oscillator circuit is built on a special sub-chassis using prewound and calibrated coils. No further calibration is required, so it is ready to use when construction is completed. RF output is in excess of 100,000 microvolts, controlled by both step and continuously variable controls. May be modulated internally at 400 c.p.s. or externally at other frequencies. Complete with output cable and instructions.

HEATHKIT V-7A, V.T.V.M. KIT

Specifications: DC Volts: 7 ranges 0-1.5 to 0-1,500. Input resistance: 11 megohms. Sensitivity: 7,333,333 ohms per volt on 1.5v. range. Accuracy plus or minus 3% full scale. AC Volts: 7 r.m.s. ranges 0-1.5 to 0-1,500. Frequency response (5v. range): Plus or minus 1 db., 42 c.p.s. to 7.2 Mc. Accuracy plus or minus 5% full scale. 7 peak-to-peak ranges 0-4 to 0-4,000. Resistance: 7 ranges measures 0.1 ohm to 1,000 megohms with internal battery. Size 7⅝ x 4-11/16 x 4½ inches.

WARBURTON FRANKI

ALL KITS ABOVE AVAILABLE FROM STOCK

VIC.—315 LONSDALE ST., MELB., 67-8351 • N.S.W.—307 KENT ST., SYDNEY — BX 1111
QLD.—233 ELIZABETH ST., BRIS., 31-2081 • S.A.—204 FLINDERS ST., ADELAIDE—W 1711

FITTING AN S METER*

SIMPLE AUXILIARY UNIT AND A METHOD OF CALIBRATION

The circuit shown in Fig. 4 has been tried, very successfully, with a CR100 and an R1155, and also (for check purposes) in several receivers already fitted with some kind of regular S meter. The needle "reads upwards" as the signal level increases, i.e. the rest position of the needle is the normal zero. Though an additional valve is involved, almost any small triode will do, and the unit can be powered from the receiver supply.

Operation of the circuit depends upon the fact that the voltage developed in a receiver a.v.c. circuit bears such a relationship to the level of the incoming signal that the plate current of the meter valve can be made proportional to this voltage, applied to its grid. With the meter connected as shown, in a bridge circuit, the needle movement will, as it conveniently happens, bear a linear relationship to incoming signal levels.

The meter itself can be almost any sort of moving-coil movement, scaled either in microamps., or in milliamps. from 0-1, or 0-10 mA. The resistor network is simply adapted to accommodate whatever meter (but not reading higher than 10 mA. full scale deflection) that may be available.

Values as given in the circuit are for an 0-1 mA. movement, and will handle a signal range of more than 70 db., i.e. from zero to S9 plus 20 db. or so on the usual Amateur reckoning. If calibrated by the method suggested later, the action is self-protecting in that any signal over the maximum calibrated level will not increase meter current—therefore, the needle can never "wrap itself round the stop," no matter how strong the local signal tuned in.

* Reprinted from "The Short Wave Magazine," March, 1957.

Construction

Clearly, the few components needed can all be clustered round the valveholder, itself mounted on a small aluminium bracket bolted somewhere conveniently inside the receiver, with the meter connections brought out on flying leads. In any receiver, there will be enough space somewhere for the unit.

The extra h.t./l.t. load involved is very small, and well within the capacity of any receiver power pack.

Adjustment

With the valve pulled out of its socket and the receiver switched on (h.t. on) prune on R3 till the scale reading is at maximum; the easiest way to do this is to reduce the value of R3 till the reading is enough over-scale to enable it to be brought accurately on-scale by means of a shunt across the meter terminals.

Then plug in the valve, warm up, and after the receiver has settled to normal working conditions, turn the a.v.c. control to "off" and adjust R4 for zero meter current.

When a.v.c. is switched on again, the meter needle will respond to the incoming signal.

If the receiver with which the S meter is to be used has no manual a.v.c. on-off control, the grid of the meter valve should be earthed while R4 is adjusted. When the a.v.c. control voltage on the grid of the meter valve goes high enough (as when a very strong signal is being received) to cut off the plate current, the meter will read its maximum and no signal will increase it further.

It is here that a certain amount of adjustment and cut-and-try may be necessary in the preliminary setting-up. Obviously, one does not want the meter valve to cut off before the strongest signal likely to be received is turned in.

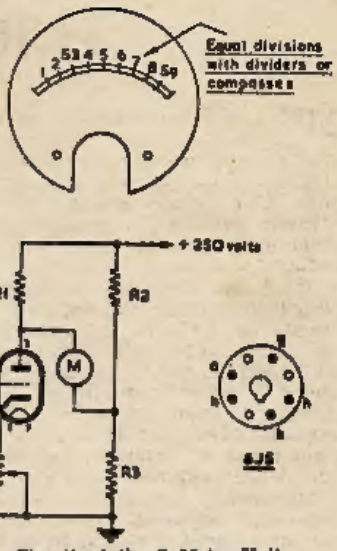


Fig. 4.—Circuit of the S Meter Unit.
R1, R2—500 ohms, 1w.
R3—50-70,000 ohms, 2w. (see text).
R4—5,000 ohms, 3-5w. wire wound.
M—0-1, or 0-10 mA. moving coil movement (see text).
V—6J5, or any similar triode.

Calibration

This is one of those rare occasions when one does not need to say "if a signal generator is not available . . ." —for, in fact, it is not necessary.

Since the S meter now evolved can only work as a comparative signal level indicator, what better than to tune in the weakest readable telephony signal on some quiet frequency and, wherever the needle sits, call that S3. Then tune in a medium-wave station and, wherever the needle stops, call that S9 plus 20 db. This is, of course, done with the a.v.c. "on" and the r.f. gain at maximum; any i.f. gain, if fitted, should also be at full on.

Take 6 db. per S-point, and mark off the scale in equal divisions accordingly —thus, the scaling from S1 to S9 will "cover" 54 db., the S9 plus 10 mark then being "equivalent" (by our arbitrary reckoning) to 64 db., and S9 plus 20 to 74 db., which is about the practical limit of the device with any receiver having reasonable front-end gain.

This will not be so far out, either. In the first place, S9 plus 20 db. is a good average value for a strong medium-wave transmitter and, secondly, 6 db. represents the accepted "times 4" power gain between S points, while S3 is a reasonable level at which to put the minimum readable signal.

When all this has been done, the advantage of starting with a 2½" (or even 3") meter, mounted externally, in a little box of its own, will be apparent. The movement will be more sensitive to small changes, and the scale will be much easier to mark. This is done by fitting thin white card, cut to shape, over the original scaling and marking off with a very thin black pen —a pair of dividers, a sharp hard pencil, a stencil set, a draughtsman's ruling pen and Indian ink are useful accessories for making a really neat job of it.

And when you see that meter needle swing across the scale as you tune 'em in, you will never regret the time and trouble it may have taken you to get thus far.

H.R.O. ALIGNMENT DATA

MANY H.R.O. receivers have become available from disposal sources, and their new owners may not know how to bring them up to peak performance. The following data will assist all H.R.O. owners to ensure that their receivers are operating in first class order.

The first step is to purchase **new** paper condensers to replace every condenser in the set. In addition, two 25 μF. electrolytic (50 volt) condensers will be required. Remove one condenser at a time from the set and replace it with a new one. (By so doing, you **cannot** affect the set's performance by rendering it inoperative because no condenser replaced is in any frequency determining location.) Having done this and replaced all condensers, the set can then be re-aligned as follows:

Let the set run for two hours before commencing re-alignment.

Disconnect the aerial, a.v.c. off, r.f. gain at 9, crystal filter ON, **phasing** control at 5 (central), selectivity maximum, and c.w. osc. on. The c.w. osc. control should be turned until the background noise is lowest (i.e. about 9) and the exact setting noted. Disconnect the **phasing** control (turn to 0) and set the **selectivity** control for lowest background noise. If the i.f. is correct the c.w. osc. will have the same dial reading. If not, then the i.f. requires alignment. To do this, connect the aerial, set r.f. gain at 9, connect the crystal filter and tune in a steady c.w. signal, tuned exactly to the crystal peak response. Trim all i.f. transformers for maximum output; if the gain has to be reduced remove the aerial, but do **not** reduce the r.f. gain control. Repeat the above until the i.f. strip is correctly aligned.

The c.w. osc. may be adjusted for beat note by varying the trimmers on top of the b.f.o. coil; left hand front corner.

To adjust the coil boxes, set all controls normally, r.f. gain max., c.w. osc. off, a.v.c. off, phasing control at 0, selectivity control for maximum background noise. The following data applies to the general coverage coils and it should be remembered that the adjustments for general coverage must be made before altering the bandspread coils. To change to bandspread, place the coil screws in the right hand screw holes.

	High		Low		
Coil	Dial	Freq.	Dial	Freq.	Note
D	490	4 Mc.	13.5	1.7 Mc.	
A	485	30 Mc.	20	14 Mc.	1
C	490	7.3 Mc.	50	3.5 Mc.	
B	485	14.4 Mc.	50	7 Mc.	
E	470	2 Mc.	50	900 Kc.	2
F	436	900 Kc.	50	480 Kc.	3
G	450	400 Kc.	50	180 Kc.	3
H	490	200 Kc.	50	100 Kc.	3
J	490	100 Kc.	50	50 Kc.	3

Note 1—Bend the oscillator wire leads from the gang to the coil box to adjust the 14 Mc. setting, then repeat the procedure for coil "D".

" 2—Trim the r.f. stages with the dial set at 490.

" 3—As for Note 2, but adjust the low end by means of the padders located at the rear of the oscillator coil box. (If other coil sets are very far out from calibration the oscillator coil may have the half turn loop of wire (**inside** the coil former) moved until the low end calibration is correct.

" 4—In every case the image will appear at a lower dial setting.

" 5—The r.f. and mixer trimmers are adjusted for **maximum** noise output, without any aerial connected, and the dial should be set as shown for each coil box.

The above procedure will enable you to re-align your H.R.O. and **can be carried out by anyone who is prepared to take their time.** The final results depend upon the care with which the coil boxes are re-aligned.

The trimmer controls are located directly alongside the inside front panel, and reading from **right** to **left** are as follows (in every case refer to the right hand trimmer in each coil set, the left hand trimmers only apply to the bandspread settings): Oscillator, first mixer. second r.f., first r.f. stage.

To adjust the bandspread coils, place the coil screw in the right hand screw slot. Bandspread adjustments will not affect the general coverage setting, but the converse **does not apply.**

The dial should be set at 450 and the coil set adjusted for the frequency as shown on the chart (e.g. 0.4 Mc.) by trimming the left hand oscillator trimmer; the other trimmers should then be peaked for maximum background noise—without an aerial connected. The dial is then set at 50 and the low frequency band edge adjusted by the series trimmer at the **back** of the oscillator coil. Re-adjust the other left hand front trimmers and see if the background noise increases. If it does, adjust the trimmers at the **back** of each coil set. Repeat the above until an even background noise and correct tracking is obtained over the entire bandspread range.

By doing this apparently complicated task, which in reality is very simple, you will have your H.R.O. performing like new.

The above data applies to the following series of H.R.O's.: H.R.O., H.R.O.-5, H.R.O.-5T, H.R.O.-5R, H.R.O.-M, H.R.O.-MX, H.R.O.-M-RR, H.R.O.-M-TM, H.R.O.-SR. and the H.R.O.-JR.

If required, an article could be prepared upon adding a new rf. stage, and product detector; which in combination really up-grade your H.R.O. Drop a line if you wish this article to appear in "A.R." —VK3ZFQ.

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HINTS AND KINKS

HOME-BREW TEST PRODS

Materials required: Two "BIC" ball point pens (used or not, they are very cheap), two banana plugs (red and black), and two hook-up wire leads (red and black).

Take the pens, remove the brass inserts and then the ink tubes. After cleaning the insert cavity, solder in each wire, keeping solder off the outside.

Drill a clearance hole for the wires in the top plastic plug of each pen and thread the wires through, replacing the inserts in their original position. Finally fit the banana plugs and that's all there is to it!—VK3UJ.

MODIFICATION TO FT243 CRYSTAL HOLDERS

The popular FT243 type crystals can be made to fit the ½" large-pin crystal sockets (such as used on the 522) by using the pins from an old tube base. Take any old tube that has large type pins, break off its base and remove two pins. Open the seam on these pins with a sharp screw driver or knife and slide them over the pins of the 243 crystal. Now the crystal, with its new pins, will fit the large wide spaced socket.

—Courtesy "QST," May 1959.

ANTENNAE FOR THE S.W.L.

DON GRANTLEY, BERS-1002

OVER the past 12 months it has been my pleasure to have received many letters from s.w.l's. all over the world, many of whom have been VKs. In the general course of this correspondence the subject of receiving antennae has naturally enough cropped up on many occasions. I have had a lot of enquiries about the aerial system used at my previous location, where I was fortunate in logging such a large amount of really good DX. In view of these enquiries, and of the fact that the s.w.l. movement is growing to such an extent, I thought it a good idea to compile a short article on the various systems which have been tried and proved by myself and other s.w.l's. I present these few comments to you, trusting that our past efforts may help you to better listening.

LONG WIRE

Possibly the most simple of all, this antenna is, in my opinion, the best all round receiving line. I used one for years in VK3, and again when I first returned to VK2. In fact I still use the type at this location.

Height is of paramount importance, taking the earth and aerial as two plates of a capacitor, the electrostatic field creating a voltage between them. The greater the spacing, the higher the voltage; the higher the voltage, the stronger the signal.

The gain of the long wire increases with the length, and the antenna, being basically an harmonic antenna, is suitable for operation on all bands. I used two of them at my previous QTH, one running N.E./S.W., the other N.W./S.E.; length of each one was approximately 270 feet. However, to be classed as a long wire, the line must be more than a half wave on the lowest frequency used.

VEE BEAM AND RHOMBIC

I found that both of these antennae were superior to the long wire, but not enough to warrant the more complicated erection. Details of these lines won't be entered into here, but full information can be found in the A.R.R.L. Handbook.

These long wire types of antennae are, in my opinion, the best of any for receiving, but very little use to the unfortunate s.w.l. who is confined to the limits of a quarter acre city or suburban allotment. A respectable long wire would require at least two blocks, and if you wanted a pair of them or a rhombic, then you want a respectable sized sheep station. They are very directional also, Don VK2RS was describing VK3BM's fabulous 60 acres of vee beams to Mac Hilliard and myself recently, and in so doing, commented that by switching the vee from one direction to another, an apparently dead band came to life, whilst a completely different set of signals could be heard on another occasion from either direction.

But back to the city dweller. The best he can do, and the ideal system, is of course a rotary beam, however not everybody can afford one, so we have to overcome this by some means. I have tried several systems and the following comments can be made as applicable to my QTH at Holbrook.

MINIATURE GROUND PLANE

A 15 metre version of this is described in "CQ" July 1958. It must be pointed out at this stage that although this antenna operated perfectly well on all bands (mine was cut to 20 metres), it is very partial to a little noise.

Situated some half mile from the Hume Highway, the long wire would not pick up the noises from the transports, however when switched to the ground plane the signal was very little less yet the noise from the motors jumped alarmingly, particularly on ten metres.

FL SPECIAL

Favourable comments have been received on this beam, but I have tried only the shortened version as described by DL3AO in "CQ" July 1959. The original version has half wavelength elements, the shortened uses three-eighth. It is light, being constructed from bamboo or dowel and 300 ohm twin lead, thus it presents little or no trouble when being rotated.

I won't go into details here, but the results are what we seek. In this case a given signal compared equally to the ground plane with less noise, and little below the long wire.

CUBICAL QUAD

I tried it on 10 and consider for the trouble involved I could have just as easily stuck to the ground plane. Very good for transmitting, but an unnecessary waste of time, energy and material for receiving.

BEAM ANTENNAE

On their own in their field, type and performance usually limited only by the size of one's pocket, however the experienced s.w.l. would consider them a complete waste of money when erected for receiving only, particularly when simplest types can be erected.

Bill Orr's "Beam Antenna Handbook" has all the answers to this type of antenna and would-be beam constructors could do a lot worse than obtain a copy of this book.

Our s.w.l. secretary in VK3 has details of a very simple two-element beam, easy to make, light in weight (and cost), and very effective. Either Maurie or myself will pass on full details of it for the asking.

VERTICAL

There are several types of vertical from ground plane to an elaborate device constructed from downpipe. We have discussed the ground plane, and as for a normal vertical, let it suffice to say that Eric BERS-195 uses one, and no one can dispute his results.

SUMMING UP

Let us look at the s.w.l. QSL ladder. Take the top four in countries heard. Eric, as previously mentioned, uses a vertical, but also has a long wire. Rod de Balfour uses a cubical quad. The writer settles for a ground plane and a pair of long wires, whilst Mac Hilliard has a 6GU beam on order.

Maybe it's personal taste which controls the type you use, but if the band is open you will receive plenty, enough to keep you busy for as long as you care to listen.

Recently I was using a three-tube regenerative receiver and logged some 30 entries from all over the world in a very short time, only to realise that I had the indoor "picture rail" wire switched to it. On switching in the 40 metre windom, which is a glorified long wire, results were not vastly improved. Date was 18/4/60, band 20 metres, and it was wider open than I have ever heard it.

PRESELECTORS

Several have been tried here, but the best of all was the one using a pair of 6AC7s, described a few years ago in "A.R." by VK5AX. This unit is used by many listeners, and all praise its very efficient performance.

TUNING UNITS

Several antenna couplers have been described, but the one which I find most effective is described by Don Stoner in his Novice and Technician Handbook. It helps a lot when conditions are bad, but I rarely use it, for there is plenty to log without it.

NEW ANTENNAE

From time to time new designs are published and it is worth noting here that in most cases any good transmitting antenna will do as well on the receiver.

— . . . —

EXHIBITION OF RADIO GEAR

The Geelong Amateur Radio Club will hold an Exhibition at their club rooms, rear of Congregational Church, Gherringhap Street, Geelong, on Friday and Saturday, 9th and 10th September, 1960.

Exhibits will include all types of equipment in use by Amateurs and S w l's.

A competition will be conducted for the best piece of gear constructed by Club members.

Amateur stations will be in operation during the Exhibition and Amateurs are requested to look out for these stations operating from the Exhibition and give them many QSOs.

All members of the public are invited, particularly visiting Amateurs and S.w.l's.

A small charge will be made for admittance.

A Miniature Tone Oscillator

A USEFUL addition to a v.h.f. transmitter is an audio tone generator, but often the inclusion in portable or mobile equipment is dictated by size and power requirements. This problem was tackled recently in a miniature 2 metre transmitter and the results may be of interest.

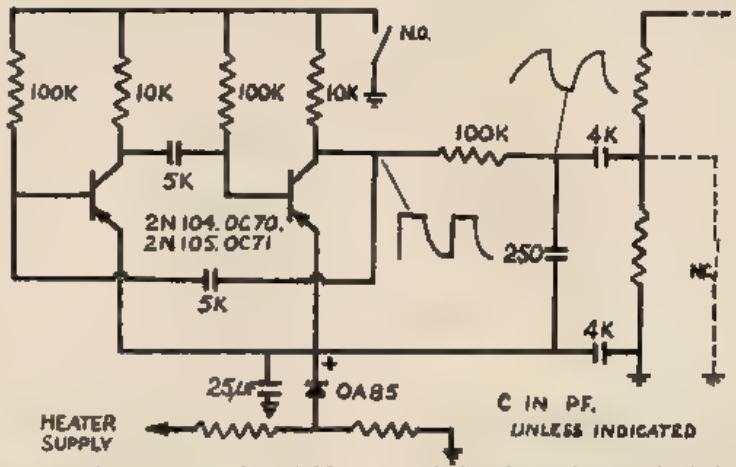
The simplest form of relaxation oscillator was first tried, and this consisted of a NE2 neon lamp and by-pass capacitor supplied with d.c. through a high value resistor.

As these neons strike and extinguish at 80-100 volt, the audio output voltage is far too great for direct application to a modulator, and so a certain amount of attenuation is necessary. Unfortunately, this does not prevent direct radiation from the oscillator getting into the earlier stages of the modulator, and the result is usually very broad modulation.

A multivibrator using two transistors, and fed from the transmitter or modulator l.t. supply, gives the same advantages of R/C frequency control, but greatly reduced output. The circuit is designed around any of the common small-signal transistors, operating in similar fashion to the well known twin triode relaxation oscillator or a stable multivibrator.

The waveforms show the effect of the integrator in rounding the sharp corners to something like a sine wave, preventing any possibility of ringing in the modulation transformer resulting in a broad "peaky" signal.

The inclusion of a diode and filter capacitor in the voltage supply permits use on a.c. or d.c. and a voltage divider either fixed or variable, provides a convenient means of adjusting the output. With a supply voltage of 3 volts, the oscillator draws about 300 microamps., which will surely not worry



even the most ardent savers of portable power supply.

The oscillator on-off switch used in my transmitter is a micro-switchette available new or from an APX1 disposals unit. This switch has a normally open and a normally closed circuit, the former switches the supply and the latter the output, thus preventing phone modulation from being applied to the transistors. This may not be necessary, but the switch contact is available so it can be used

The switch is mounted beneath the chassis of the transmitter with the operating button protruding so that it can be used as an m.c.w. morse key, or held down by a pivoted cover to give a continuous tone for test purposes.

The entire unit, apart from the switch, is mounted on a 2" x 1" piece of matrix board and is mounted flat against the side of the 5¼" x 3¼" transmitter chassis, occupying less space than a 0.25/600v. capacitor.

Richard J. Haighway, VK3ABK/T.

Thief Strikes Again

AMATEURS are warned that another theft of radio gear has occurred. The Federal President (VK3ZS) of the W.I.A. has had his shack broken into and has lost equipment. This theft is in the same area as that previously reported in "A.R." (Correspondence, Aug) and the C.I.B. have asked that widespread publicity be given to this theft and request all Amateurs to report any relevant details they may know regarding any attempt to sell this equipment.

Every Amateur should record the serial number of his equipment, together with all details and should check his insurance policy to ensure that his gear is covered. In addition, his shack should be kept locked

In both thefts the thieves only removed gear which was portable and had re-sale value, no transmitting equipment was stolen.

The co-operation of every Amateur is requested, and all are warned against purchasing any of the following types of equipment unless the seller is known to the buyer, and his reputation is beyond question.

The gear stolen was as follows:—
AR88 receiver,
BC342N receiver,
Bendix BC221 frequency meter.

And from VK3AHR:—
BC348Q receiver,
Monimatch (home-made),
Magnecorder tape recorder,
"Serviscope" c.r.o. unit,
"Heathkit" v.t.v.m.,
"Sanwa" multimeter,
Bendix BC221 with home-made power supply,
Pronto soldering gun.

Every Amateur is requested to keep a look out for such items and advise Detective Hawkins, Camberwell C.I.B., of any details they may learn.

Be warned. Do not purchase gear from strangers, record all details of your gear today, and lock your shack.

SPECIAL OCTOBER ISSUE

● The October issue of "A.R." will be an enlarged edition similar to the 1958 anniversary issue and orders for extra copies will be accepted in advance. Book now as only a limited number of spare copies will be printed, and judging from past issues there will be a large demand.

Special features will be a three-page article on **"The Tunnel Diode Story,"** a do-it-yourself s.b. rig; s.w.r. measurements on a very popular aerial, a transistorised converter, and many other original articles by Australian Amateurs, plus all the standard features.

Book your extra copy in advance, 2/- each post paid; order a copy for your overseas friends.

BC221 FREQUENCY METER

A BC221 Frequency Meter is accurate to 25 c.p.s. OR 0.01%, whichever is the GREATER error. As an unmodulated signal generator, it provides an output of approx. 2,000 microvolts between the antenna terminal and chassis. It may be used as a means of receiving s.s.b. upon any receiver. To do this, simply connect the 221 to the set's aerial terminals and tune the 221 until the s.s.b. sounds natural. This system of s.s.b. reception removes all stability requirements from the local b.f.o. Try it.

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THE CENTURY CLUB

The following DX countries have one hundred or more Amateurs, but less than one thousand: CN8, CP, CR7, CT1, EA, EI, FA, GI, GM, GW, HB, HK, KP4, KR6, KZ5, OA, OE, ON, OQ5-0, PA0-P1, SP, TG, TI, VO, VU, YN, YU, YV, ZE, ZP and 4X4.

CONTEST CALENDAR

Sept.	3-4	Labre, c.w.
„	10-11	„ phone and s.s.b.
„	10-11	Peruano, c.w.
„	17-18	„ phone.
„	17-18	S.A.C., c.w.
„	24-25	„ phone.
Oct.	1-2	VK-ZL, phone.
„	8-9	„ c.w.
„	22-23	Boy Scouts Jamboree
„	28-30	"CQ" WW DX, phone
Nov	25-27	„ „ „ c.w.
Dec.	3-4	R.S.G.B., 21/28 phon.

FEEDBACK ON FEEDBACK

The following amendments should be made to articles which appeared in August "A.R."

"Using Overtone Oscillators." Some readers may be confused with the explanation underneath Fig. 3. The grid resistor referred to is the grid resistor of the following stage, and the unmarked resistor should have a value of 10,000 ohms. Too high a value here can prevent proper operation of the circuit. The anode coil should be resonant at the desired overtone frequency.

"CV and VT Service Tubes." Type VT289: this should read 12SL7GT, and not 12SY7GT as shown.

Queensland Notes, page 25. The correspondent is correct, the Co-editor did confuse the two types of diodes, and the OA211 would be quite suitable for the job stated.

USING SILICON RECTIFIERS

(Continued from Page 2)

Be sure to use a bleeder resistor of 15 to 25 thousand ohms across the output of the power supply to discharge the filters and prevent the switch-on surge voltage from rising above the peak value. Yes, it will go higher on some occasions if your switch closes at just the right point in the a.c. cycle. Mine actually measured up to 720 volts.

With a bleeder resistor of 20,000 ohms the measured voltage was 595v. into a capacitor input filter and 395v. on choke input. The voltages fell almost linearly to 470 volts at 330 mA. for capacitor input and 360 volts at 320 mA. for choke input with the particular transformer used. These figures were measured at the input to the filter and need to be modified according to the resistance of the filter choke(s) used

At this stage it was decided that the regulation of this transformer was not good enough to meet my needs and the d.c. voltage I could obtain was not high enough.

Due to the facility with which silicon rectifiers can be connected into the various circuits and the fact that heater power is not required, there are many tricks that you can get up to with the various transformers that are available at very reasonable prices.

Designs have been appearing in "QST" and the A.R.R.L. Handbook for some time now using valves such as 5Y3 and 6X5s or 5U4G and 6DE4s in bridge connection. We can substitute the 6N3 for the 6DE4, but we still have to provide filament power. It is much easier to achieve the desired result with silicon elements.

Another method is to use the full wave voltage doubler circuit. A good example of this technique is seen in the power supply design for "A Desk-Top 650 Watt Amplifier" in "QST" for September 1958, and the 1960 Handbook, pages 201 to 205.

Assuming that we could achieve a similar a.c. input to d.c. output ratio and we need about 125 to 150 mA. to feed an 813. This doubler circuit means that you can get around 1,000 volts d.c. from a t.v. transformer or 1,350v. from a type giving 295 volts each side of centre tap. An ordinary "isolation transformer" 240 to 240 volt type will give about 550v. using the voltage doubler circuit and if you were to use a quadrupling circuit as recently described, if I remember correctly, in "CQ," 1,000 volts. I consider the "CQ" design, which operated directly from the mains, a rather lethal device, but by using an isolation transformer this objection is overcome.

[Next month the author will describe a 500v. 300 mA. Power Supply using Silicon Rectifiers.—Ed.]

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ON THE SHEEP'S BACK

This saying has an Australian quality and meaning, particularly since the C.S.I.R.O. has adapted a transistor transmitter for the recording of the sheep's habits. They have fitted a small rig to the sheep's back and this, in conjunction with a mouth switch, enables them to study the eating habits of sheep. Thus radio truly comes to the farm and perhaps future farmers may require a "ticket" before being fully qualified.

PREDICTION CHART, SEPT. '60

VK-ZL DX CONTEST, 1960

Objects: For the world to contact VK and ZL stations and vice versa.

When? Phone: 24 hours from 1000 G.M.T., Saturday 1st October, to 1000 G.M.T., Sunday, 2nd October.

C.w.: 24 hours from 1000 G.M.T., Saturday, 8th October, to 1000 G.M.T., Sunday, 9th October, 1960.

Duration for all contestants is 24 hours.

RULES

1. There shall be three main sections to the contest—
   (a) Transmitting phone.
   (b) Transmitting c.w.
   (c) Receiving—phone and c.w.

2. The contest is open to all licensed Amateur transmitting stations in any part of the world. No prior entry need be made. Mobile Marine or other non land-based stations are not permitted to enter the contest

3. All Amateur frequency bands may be used, but no cross band operating is permitted.

4. **C.w.** will be used during the **second** week-end, and **phone** for the **first** week-end. Stations entering for both sections must submit separate logs.

5. Only one contact per band is permitted with any one station for contest purposes.

6. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a competitor, and must submit a separate log under his own call sign.

7. Entrants must operate within the terms of their licences.

8. **Cyphers:** Before points can be claimed for a contact, serial numbers must be exchanged and acknowledged. The serial number of five or six figures will be made up of the RS (telephony) or RST (c.w.) report plus three figures which may begin with any number between 001 and 100 for the first contact, and which will increase in value by one for each successive contact, e.g. if the number chosen for the first contact is 053, then the second must be 054, followed by 055, 056, etc., If any contestant reaches 999, he will start again from 001.

9. **Scoring:**

(A) **Overseas Stations:** One point will be scored for each contact on a specific band with any VK or ZL district. The final score will be derived by multiplying the total contacts on all bands by the total number of VK and ZL districts worked on all bands. These are ZL1, 2, 3, 4, 5, VK1, 2, 3, 4, 5, 6, 7, 8, 9, 0.

(B) **VK and ZL Stations:** Five points for each contact on a specific band and in addition, for each new country worked on that band, BONUS points on the following scale will be added—

1st	contact—	50	points
2nd	"	40	"
3rd	"	30	"
4th	"	20	"
5th	"	10	"

● N.Z.A.R.T. and W.I.A., the National Amateur Associations in New Zealand and Australia, invite world-wide participation in this year's VK-ZL DX Contest.

For this purpose the A.R.R.L. countries list will be used with the exception that each call area in the U.S.A. will count as a scoring area.

10. **Logs:**

(A) **Overseas Stations—**

(a) Must show in this order—date, time in G.M.T., call sign of station contacted, band used, serial number sent, serial number received. **Underline** each new VK and ZL district when contacted and use **separate log for each band used.**

(b) Summary sheet to show—call sign, name and address (please use BLOCK LETTERS), details of transmitter, etc., TOTAL SCORE by showing total of districts worked on all bands and total contacts on all bands. (Districts multiplied by contacts equals total score.) Sign a declaration that all rules were observed.

(B) **VK and ZL Stations:**

(a) Must show in this order—date, time in G.M.T., call sign of station contacted, band used, serial number sent, serial number received, contact points, bonus points. Use a **separate log for each band.**

(b) Summary sheet to show call sign, name and address in BLOCK LETTERS and **score for each band** by adding contact and bonus points for that band and TOTAL SCORE by adding scores together. Details of equipment used—transmitter, receiver, etc., and power.

11. Declaration to be attached to all logs: "I hereby certify that I have operated in accordance with the rules and spirit of the contest."

12. The right is reserved to disqualify any entrant who, during the contest, has not observed regulations or who has consistently departed from the accepted code of operating ethics.

13. The ruling of the Executive Council of N.Z.A.R.T. will be final.

14. **Awards:** (a) **VK and ZL Stations:** Certificates will be awarded to the top scorer on each band and the top scorer in each VK and ZL district. The top scoring ZL on c.w. and also on phone will receive a suitable plaque. W.I.A. is responsible for trophy awards for VK Amateurs. There is NO overall winner for VK and ZL.

(b) **Overseas Stations:** Certificate to the top scorer in each scoring area. Additional certificates will be awarded depending on the number of logs received—e.g. to high scorers on different bands and place winners.

15. **Entries** from **VK and ZL stations** must reach N.Z.A.R.T. Contest Manager, ZL2GX, 86 Lytton Rd., Gisborne, New Zealand, before December 20, 1960. From **Overseas Stations** must reach N.Z.A.R.T., Box 489, Wellington, New Zealand, before January 20, 1961.

RECEIVING SECTION

1. The rules are the same as for the transmitting section but it is open to all members of any S.w.l. Society in the world. No transmitting station is permitted to enter this section.

2. The contest times and logging of stations on each band per week-end are as for the transmitting section.

3. To count for points, logs will take the same form as for the transmitting section but will omit the serial number received. Logs must show the call sign of the station heard (instead of worked), the number sent by it, and the call sign of the station being called. Scoring will be on the same basis as for transmitting stations. It is not sufficient to log a CQ.

4. VK receiving stations may log overseas stations and ZL stations, while ZL receiving stations may log overseas stations and VK stations.

5. Certificates will be awarded to the highest scorers on the same basis as for transmitting stations.

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NATIONAL FIELD DAY CONTEST RESULTS

An error appeared in these results, published in "A.R." May '60. An award issued to VK5OR should have been made to VK5ZBL in Section D.

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AMATEURS' PUBLICITY PLAN FOR QUEENSLAND

A plan by Townsville Radio Amateurs to publicise Queensland throughout the world has been forwarded by the Townsville and District Tourist Development Association to the Minister for Labour and Industry (Mr. K. J. Morris).

The Townsville Amateur Radio Club has suggested that the State Government or its Tourist Bureau make available to all Queensland Amateur Radio operators a supply of cards, known as QSL cards, bearing photographs and information of tourist attractions in the State of Queensland.

These cards are exchanged by Amateur Stations throughout the radio world, in all countries, as acknowledgments of radio contact.

They are already used to advertise other Australian States and countries behind the "iron curtain" make great use of their propaganda value when contacting the free world.

In a letter to Mr. Morris, the T.D.T.D.A. honorary secretary (Mr. L. Taylor) points out that, during 1959, 11,000 such cards were despatched from Queensland by the Amateur Radio Bureau in Brisbane, and many more were forwarded direct by stations.

Approximately half the card was available for advertising.

Mr. Taylor forwarded to Mr. Morris a suggested layout for cards, as supplied by the Townsville Amateur Radio Club.

—Reprinted from Townsville Newspaper.

CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

"COMPONENT PARTS"

Editor "A.R.," Dear Sir,

I would like to suggest a section of "A.R." devoted to reviewing new components and sub-assemblies. On a recent visit to Melbourne I was amazed to see the variety of new resistors, condensers, plugs, sockets, etc., most of which I did not know existed. As a country Ham I have to order a lot of my new components by mail and thus have to order from stocks that I know exist. This certainly limits my experiments and "progressiveness."

I am sure that many country Hams in all States would appreciate reviews which describe the component as to size, characteristics and suggested use, and manufacturers' or retailers' part number.

A second suggestion is that "A.R." publish the Gentlemen's Agreements regarding the h.f. Amateur bands which in the eyes of the W.I.A. Australian Amateurs should abide by.

My third suggestion is that information be published regarding price and availability of W.I.A. lapel and car badges and certificates of membership. Also in each February issue a reminder that subscriptions are due and the amount of subscription in each Division.

Well that's the lot, quite a long "over", but I hope an interesting one.

—M. N. O'Burtill, VK4OM.

Editor "A.R.," Dear Sir,

During the past few months I have been acquiring information regarding various radio components, both here in Australia and from abroad. During this search I have unearthed some interesting information. I feel that there must be mountains of material that the average Amateur never sees or hear anything of; particularly as so much new material reaches the market each month. Even the Amateur who is in radio professionally does not see half of the new material available and those of us whose only use of radio is as a hobby certainly can't be aware of what is around him. Speak to him on the bands and you will soon see.

All this led to quite a lot of thinking and it naturally got around to "A.R." This is our magazine, for the Amateur and why not have some service available for him to let him know what's new and where he can obtain it. Other magazines can so why can't ours.

This might be achieved as a private venture or official sanction might be given one person who could, by means of a circular letter, canvas the manufacturer and various trade houses for news of new releases, etc. Now this might work twofold. It might encourage those who don't already advertise in "A.R." to have second thoughts and bring to the notice of others our magazine. Though our circulation is restricted now, by the addition of these services and the trend at the moment to a bigger and better "A.R.," circulation may expand and thus further encourage others to advertise in "A.R." to ours and to their benefit.

—Len Poynter, VK3ZGP.

VHF DIRECTIVE AERIAL

Editor "A.R.," Dear Sir,

I would like to bring to your attention many things which do not seem compatible with fact and theory, in the article by G6ZU on the "Bird Cage" ("A.R.," July '60).

This article makes some positive statements and observations which do not seem to be correct, as follows:

1. "A 'V' dipole provides an increase in gain in one direction."

A "V" dipole with an angle of 90 degrees will have an approximate all round response and in some practical instances is used so as to avoid the nulls off the ends of the normal dipole.

2. "Such an arrangement, i.e. 'V' dipole when used with a reflector of similar construction, gives considerable power gain and the front-to-back ratio greatly exceeds that which can be obtained with a normal two-element array."

In actual fact a "V" dipole beam will be at least 6 db. less efficient than a conventional beam. Fig. 1 shows the radiation from current flowing in a dipole, and Fig. 2 the current flowing in a "V" dipole. It can be seen that the "V" dipole only radiates in the desired direction with 50 per cent. of its current, which is equivalent to a 6 db. loss.

3. "Due to the 'V' dipole effect, the power gain is 1 to 1½ db. better than a cubical quad."

It is in fact at least 6 db. worse than a cubical quad.

4. "Specific and close measurements are given for a 20 metre 'Bird Cage'."

These are not correct. The writer uses a cubical quad and it was found possible to distort the existing quad so as to have the physical configuration of a "Bird Cage".

(a) The resonant frequency of the configuration immediately jumped up to the vicinity of 15 megacycles.

(b) Notes were compared with a ZL3, a W6 and a W4 who all had the same experience and found that the 65 ft. long wavelength when placed in the "Bird Cage" configuration had to be lengthened to between 85 and 90 ft. for resonance on 14 Mc

(c) "Bird Cages" are available commercially in the U.S.A. and all purchaser's contacted or heard of invariably find that the antenna is delivered complete with an assortment of loading coils.

In all cases of which the writer has knowledge (I have not contacted G4ZU) the characteristics and results obtained are more in line with the writer's remarks than with the claims made in the "Bird Cage" article.

—C. B. Edmonds, VK3AEE.

FIG. 1

FIG2

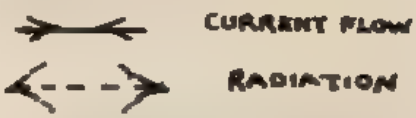

Fig. 1.—Radiation is at 90 degrees to the direction of current flow.

Fig. 2.—The radiation from the "V" dipole can be shown to be equivalent to a component radiating forward and a component radiating sideways. When the angle of "V" is 90 degrees these two components will be equal, i.e. 50 per cent. each.

RULES FOR ROSS HULL CONTEST

Editor "A.R.," Dear Sir,

Having forwarded through my Division of the W.I.A. some comments on the proposed new rules for the 1960/61 Ross Hull Contest, I would be grateful for the opportunity to air my views in "A.R."

Briefly, although I favour some changes in the rules, I object strongly to some of the proposed changes:—

(1) Why delete the c.w. section? I think this is deplorable. Are the Z licensees forced to compete with full licensees under the present phone, open and c.w. log system? After all, the number of opportunities for using c.w. in the Contest are few, but one of those contacts could possibly yield a rare DX 6 metre station. Even more important, any chance of VK6 working 2 metre DX rests strongly on the use of c.w.

(2) Wasn't the allowing of intra-State QSOs on 144 Mc. tried some five years ago and proved to be a failure? At present a VK6 has little chance of being outright winner of the Contest owing to the geographic isolation of the State (my 317 hours of listening and operating last Contest yielded 804 points, over half of which were scored by working JA stations. There were only 16 openings into other Australian States on 50 Mc. during the Contest).

However, the comparatively few Amateurs in this State makes the scoring from intra-State 2 metre contacts poor. Interstate contacts on 2 at present are most unlikely as far as VK6 is concerned.

(3) While I agree that it is desirable to shorten the Contest, I don't agree that it should be limited to week-ends. My reasons?

(a) Many enjoyable openings occur on week nights.

(b) Week-end activity is limited for many by sport or church activities and/or by families who object to a large portion of a summer week-end being spent on Ham Radio!

My personal opinion favours a period of one month from 20th December to 20th January, since this covers both the holiday period and also the period of greatest E activity on 6 mx.

Summing up then, I agree that some change in the duration of the Contest is desirable, but I object strongly to the inclusion of intra-State 144 Mc. contacts, and I deplore the dropping of c.w. from the Contest.

—J. R. Elms, VK6BE.

AMATEUR TELEVISION

Editor "A.R.," Dear Sir,

In the July issue of "A.R." there appeared a spirited attempt by VK3ABK/T to bring the subject of a.t.v. into the open.

I feel he is being unjust towards Hams in making their activities known. Apparently he has not read earlier issues of "A.R." in which myself (VK2AWW/T) and Bill Brownbill (VK3BU/T) have on several occasions called for any interested parties to contact us with a view to co-ordinating standards, etc., at least in each State.

The net result of these appeals at my end (VK2) was nil with the exception of Rod Prout (VK2CN/T) who has later contacted me on a business trip to Newcastle.

I would like to ask VK3ABK/T where he was on this occasion and if he is so interested in a.t.v. then why did he not contact us?

For over two years I have been actively interested in closed circuit t.v. which I feel is a forerunner to "on air" transmission and have met many people, Hams and non Hams all over VK2 interested in the subject. These people I also find are members of the British Amateur Television Club which has organised active groups in the United Kingdom.

When these parties are located on a map of Australia you will find that they are spread hundreds of miles apart and therefore 288 Mc. a.t.v. contact is impossible. These people also regard closed circuit work as an outlet for their interest. Therefore I feel that if any great co-ordination is to be done it must consist of Hams and non Hams and also any articles published in "A.R." should include closed circuit activities. This requirement is essential as not all concerned or interested in electronics as a hobby are yet conversant enough with television techniques to start transmitting full scale pictures to C.C.I.R.

Another point is that the financial position of many parties who have t.v. permits will not allow full scale projects as we all must admit that it costs money for t.v. equipment, and the old junk does not help very much in this case.

As far as standards are concerned, I feel that Eric Cornelius (VK6EC/T) has put forth a good set, as in any case these standards are generally accepted studio techniques in Australia anyway, in that distributed composite video output level is 1.4v. peak.

I make a challenge now to VK3ABK/T that if he writes a general article on what he considers good practical a.t.v. standards, then I will answer with any agreements or otherwise I feel and I ask therefore that if any interested party reads this letter, including VKs 2CN, 3BU, 6EC, etc., that they do the same.

You have brought up the question of a.t.v. standards, VK3ABK/T, so now let us see you back up your arguments as I for one did not know you were active until your letter appeared in July "A.R."

—Dennis Wheaton, VK2AWW/T.

(Continued on Page 15)

FEEDBACK

The gentle crash of static fills the band and the only sound is the noise caused by the travel of the tuning knob. Silence, yet let a rare one appear and the band breaks into life But is this using our bands? Because the use of a band implies that we are in contact with our fellow Amateurs. If, for example, your log was submitted to an outside examiner, would he consider you were really using the band if your log showed no actual contacts or CQ calls? It is very doubtful. As once said, "It is later, than you think," and unless you show by on-the-air contacts that our frequencies are being used, it could well be that someone will consider that our requirements are overstated. "Populate or perish" was once a catch phrase, but at this time it is a genuine slogan, for unless we do use our bands we may have no bands to use.

This is a definite demand to every Amateur to prove that we do use our frequencies, because in this instance an active majority can prove to a demanding minority that they are not correct. Never say you have not been warned; call CQ today and use your transmitter.

★

"My Old Man's a Dustman" is, today, a popular tune, but is there any need for the s.b. gang to distribute their garbage over such a wide frequency spectrum? And lest the a.m. boys greet this with pleasure, they, too, could well check their splatter which is becoming rather pronounced. A clean, well modulated signal, is the hallmark of a good station. Have you checked your splatter? Even your best friend may not tell you, "you splatter".

★

It seems a Division has a riddle: "Is a quorum a forum to be held with decorum, or a site for a fight on a meeting night?"

★

If a Reverend Gentleman answers a CQ could that be classed as parson to person contact?

★

Must have offended or upset the co-editors as they misspelt a word in this column last month, but at least they did publish the uncensored thoughts. Suppose it is an unrewarding task reading the whole magazine looking for errors and, over all, such are very few. Wonder why they have to appeal for articles as on the air discussions indicate that many original and, as yet, unknown ideas are currently being used by Amateurs. Perhaps Hams are shy to print their ideas for fear they may be subject to criticism, but remember that many others were laughed at for their then silly ideas. Ever thought how you would describe to a resident of 1899 the idea of radio communication? Yet today we take it for granted.

★

Progress — Publicity — Public Relations, and most important—active use of our frequencies.

★

If you are going on a fox hunt (my spies advise me) it pays to stay clear of the constabulary.

SALES TAX CHANGE ON RADIO AND TELEVISION VALVES

A new method of taxing thermionic radio and television valves, to bring in an extra £300,000 revenue to the Commonwealth in a full year, was outlined by the Treasurer (Mr. Holt) in his budget speech, 17/8/60.

Referring to the changed method of taxing radio valves, Mr. Holt said: "At present, valves made in Australia are exempt from sales tax but are subject to excise duty of 2/9 each.

"Imported valves bear a similar levy embodied in the customs duty to which they are subject.

"It is proposed the excise duty, and that part of the customs duty which is equivalent to the excise duty, shall be superseded by a sales tax of 25 per cent. This is the rate of sales tax which is payable on wireless receiving sets.

"An exception will be made for certain valves of a kind which are used only in transmission. These valves will be subject to sales tax at the general rate of 12½ per cent."

GOODS ON WHICH SALES TAX EXEMPTION IS WITHDRAWN

Thermionic valves of a kind used in apparatus for radio or television transmission or reception, but not including.

(a) Cathode ray tubes;

(b) Rectifying valves in respect of which the product of the peak inverse voltage rating and the peak plate current rating exceeds 10,000, or

(c) Other valves in respect of which the rating for plate dissipation under Class "C" Telegraphy continuous carrier wave conditions exceeds 25 watts.

Note. Wireless valves specified above have hitherto been exempt from sales tax, but subject to customs duty or excise duty The excise duty on these valves has been abolished and the customs duty has been reduced by an equivalent amount per valve. These valves are now subject to 25 per cent sales tax with the exception of:

(i) Cathode ray tubes which remain exempt from sales tax and subject to customs duty and excise duty; and

(ii) The valves excluded by paragraphs (b) and (c, above, which are now subject to 12½ per cent. tax. (These are the larger and more expensive valves which are used in transmission)

Tax at the rate of 25 per cent. is now payable on the full sale value of wireless receiving sets, without any exclusion of the value of the valves incorporated therein. The value of cathode ray tubes will, however, still be excluded from the taxable sale value of T.V. sets.

Where valves have been entered for home consumption prior to August 17, 1960, and have thus borne excise duty or the full amount of customs duty then payable, a taxpayer who subsequently becomes liable to pay sales tax on those valves, or on goods such as wireless or television receiving sets which include those valves, will be entitled to a rebate of sales tax equal to the amount of excise duty, or an equivalent amount of the customs duty, paid on those valves.

CORRESPONDENCE

(Continued from Page 14)

Editor "A.R.," Dear Sir,

Ham t.v. equipment at this QTH consists of a waveform generator and camera unit, based on a complete system published in "QST" 1940. This has been modified to improve video response, and line speed altered to suit our 625 line standard.

The waveform generator produces synchronising and blanking pulses, which are inserted at the end of the video chain to give a composite t.v. signal.

The camera is built around a type 5527 iconoscope tube with a four-stage video amp. and 6L6 cathode follower modulator, lifting the voltage output to about 30 peak.

This is suitable for grid or screen modulating a QQE06/40 to give a negatively modulated signal on our 288 Mc Amateur band.

The transmitted signal can be received on the 1 metre band by using a converter feeding into Channel 1 of a standard t.v. set.

Persons interested should contact the writer Geoff Hughes, 2 McMillan St., Elsternwick, or on 6 or 2 metres.

Geoff Hughes, VK3AUX.

["A.R." will be pleased to commence a new column on a.t.v. if warranted and a volunteer sub-editor located.—Ed.]

JA6AUG REQUESTS CONTACTS

Editor "A.R.," Dear Sir,

I have an enquiry from a Japanese Ham Radio Operator living in Kyushu (the southern part of Japan) who wishes to communicate with Australian Hams and to become friendly with each other through their common hobby. I would be most obliged if you will kindly suggest to me the name of any person or organisation who would be willing to be approached on the matter.

Particulars from the applicant are as follows: Call sign, JA6AUG; metre band to be applied, 20 or 6 metres, time suitable, 1400 in Eastern Standard Time (or 1800 in Japanese Standard Time).

—H. Mizmoto (Melbourne Representative of I.I.N.O. Lines, 543 Little Collins St., Melbourne).

FOUR IN ONE

The following countries (DX status) have four or less licensed Amateurs CE0, CR5, CR8, CT2, FG7, FU8, MP4, OH0, PJ2M, TI9, VP5, VP8, VQ6, VS4, YJ, ZD7 and ZS7.

W.I.A. FEDERAL PRESIDENT'S REPORT, 1959-60

Gentlemen

I am pleased to make this annual report to Federal Council and Members for the year ending 1959-60.

Due to the urgency and importance of the work in connection with the Administrative Radio Conference of the International Telecommunications Union, much of the normal work of the Executive, of necessity, fell somewhat behind. This was further effected by the resignation of Mr Douglas Bowie, VK3DU, Federal Secretary, under his Doctor's instructions after undergoing a serious operation. I have, therefore, carried on the duties of Federal Secretary in addition to the I.T.U. activities and was ably assisted by Mr Bill Mitchell, VK3UM, who acted in the capacity of Assistant Federal Secretary and Federal Business Manager.

During the year the Federal Treasurer, Mr. C. Ewin, VK3AGC, also found it necessary to resign but fortunately Mr Bob Boase, VK3NI, was able to take over the post of Federal Treasurer and has been doing an excellent job as shown by the Federal Executive's financial statements issued with the minutes of each Federal Executive meeting.

Mr. D. H. Rankin, VK3QV, was appointed to the Executive as Federal V.h.f. Officer, an appointment which was most satisfactory since the quite large increase in Z call licensees made it imperative that an experienced v.h.f. operator represent the problems of these licensees at Federal level.

In accordance with my desire to re-organise the work of the Executive, Tom Straughair, VK3ZIT, was appointed to the Executive as Projects Officer and will be responsible to undertake the work of obtaining estimates of costs in carrying out Federal Council directives to produce such items as certificates, log sheets, message forms, etc.

W.I.A. DELEGATE TO I.T.U.

You are aware, of course, that after I reported to you at the Easter Convention, 1959, John Moyle, VK3JU, was appointed as an ex officio member of the Federal Executive, and prior to departing for Geneva as the W.I.A. officially accredited Representative with the Australian Delegation, sat in conference with the Delegation at meetings held in Melbourne.

During the three months he was away, I kept in close contact with him by letter and cablegram. I was able to make and release tape recordings of his reports from time to time when the subject matter was not advised to me as sub judice in nature; these were subsequently published in the Institute's journal, "Amateur Radio".

Little did any of us think when we saw him off by Qantas aircraft at Essendon Airport in Melbourne that he would be coming back to undergo an operation for cancer from which he was never to recover. I was aware of his condition, but at John's request, I did not convey details to Federal Council and Members at the time.

His work at Geneva on behalf of the Australian Amateur Service will be forever remembered. His premature passing from the ranks of Australian Amateurs has been a sad one, perhaps more so for myself and members of the Executive who were so clearly associated with him during the months of preparatory work prior to his departure.

It was with deep and sincere sadness that I wrote the page on his life which was published in the April issue of "Amateur Radio". His ability whilst in Geneva on our behalf brought forth the praises of all Amateur Societies and many individual members from Delegations present at the Conference with whom John associated himself.

On behalf of Federal Executive, Federal Council and members of the Institute, I arranged for a wreath to be laid on his coffin. Mrs. Moyle wrote to me in these words:

> "Would you kindly convey to Federal Executive and the Federal Council of the Institute my sincere thanks for kind messages and expressions of sympathy in our recent bereavement.
>
> "In this time of sadness it has given me much comfort to know of the high esteem in which John's contributions to the W.I.A. are held, for, as you may well know, the Amateur cause was always very close to his heart."

Despite his ill health and the knowledge that he could not expect to live many weeks, he wrote his final report on the Geneva Conference and this was also published in "Amateur Radio"

You are all no doubt aware of the outcome of this Conference as it effects Amateur band assignments in Region III. You know that we are to have further reductions made in our already-reduced bands if the Final Acts of the Geneva Conference are ratified by the Australian Government. Of recent date some Amateurs, activated by the highest ideals in defence of our great cause, have taken individual action to try and stop the ratification of these Acts in their present form, and to have changes made in respect of the proposed frequency reductions.

Because some of the statements being made were not strictly accurate and because such mis-statements might ultimately prove an embarrassment to both the W.I.A and the Honorable Members of the Houses of Parliament who are prepared to defend our case, I deemed it wise to call an Extraordinary Meeting of the Federal Council in order that any policy to further defend our bands by Political assistance would be at the direction of the Federal Council with the full knowledge of the true facts in relation to the proposed frequency curtailments.

The Federal Council met in Melbourne on Easter Saturday and have been fully appraised of the true facts. It has further been resolved that the assistance of Honorable Members will be sought in an effort to have the Postmaster-General's Department honor its assurances of last year that if the majority of countries were in favour of maintaining the status quo on Amateur band assignment, then Australia would make no unilateral arrangements.

By a vote of five to one, Federal Council was in favour of covering the cost of the Extraordinary Meeting from the balance of the I.T.U. Fund which currently stands at approximately £800. Although one Division did not agree with this resolution, I am of the opinion that it was a reasonable decision because, if you recall the details of the Executive's original plan, the late John Moyle was to visit each Division after his return from Geneva. Since his trips would have had to have been from Sydney each time and accommodation expenses would have been additional thereto, the sum expended would have been far greater than the cost of the aforementioned meeting. Since the said meeting was for the express purpose of making resolutions which might well bring an end result in favour of the Amateur Service, I feel that the money has been spent wisely in favour of the effort which the late John Moyle initiated in Geneva.

In conclusion of this section of my report, I would like to take the opportunity of thanking all the Honourable Members of the House of Representatives and the Senate who last year rose in defence of the Australian Amateur. I feel very strongly that if we did not have a legitimate case we could not have expected this support; the fact that we gained such recognition is proof in itself that our case was worthy of attention.

CONTESTS AND AWARDS

After the Federal Convention in 1958 the South Australian Division handed over the duties of the Federal Contest Committee to the Tasmanian Division. The VK5 boys did a sterling job during the two years in which they conducted the Federal Contests. From practical experience I am fully aware of the detailed work involved in the organisation of our contests and it is to the credit of the South Australian Division that such excellent co-ordination and co-operation was attained.

In taking over the duties the Tasmanian Division have shown that they are equally as capable and it has been most gratifying to see the result of their work so far.

Taking it all round, the participation in most of the contests this year has increased, particularly in the National Field Day Contest, which of recent years has not had great support. Perhaps with the advent of quite high power capabilities from transistors we might look forward to even greater interest in this contest which is essentially an out-of-doors contest. Because of the late John Moyle's great national outlook on Amateur Radio it has been suggested that some form of perpetual trophy be attached to this contest. Suggestions for a memorial to John's memory will be forwarded to the Executive in due course and you will hear more about it later on in the year. I would like to think, however, that should such a memorial be associated with the National Field Day Contest, the participation should never be allowed to flag.

The Remembrance Day Contest was again a great success and was opened this year by His Excellency, Colonel Sir Henry Abel Smith, K.C.B.O., D.S.O., Governor of Queensland. Since the original idea, some three years ago, of having some notable person open our R.D. Contest, this has been maintained and I would like to see it continue in the future years. I am informed that the Federal Contest Committee are anticipating that the Tasmanian Governor will open the 1960 Contest.

The VK-ZL Contest was again a success as evidenced by the number of overseas logs submitted in the results published in "Amateur Radio". This year the honors of running the contest are with the N Z A R T and I trust all Australian Amateurs who are able to, will enter again and support our sister Society in New Zealand.

The Ross Hull V.h.f. Memorial Contest was reasonably successful, but there appears to be some dissention amongst the v.h.f. boys concerning the period and duration of the contest. Some comments have been forwarded to the Federal Contest Committee and I would be pleased if Federal Council would give their attention to any variations which the committee might submit in the future for variations in the rules to provide greater interest.

Draft V.h.f. Century Award rules were circulated to Federal Council during the year from which a large number of constructive ideas were returned to the Executive. These are being compiled with a view to producing a second draft of the rules which I trust this time will be to the satisfaction of all so that the Award can be implemented without further delay.

Those members in your Divisions who have submitted claims for the Australian DXCC Award will not have received their certificates as yet, the reason being that the supply has been exhausted. Because the Executive received so many complaints about the quality of the certificate, it was resolved not to print any more of the old ones but to produce a new certificate. To this end designs were called for in the columns of "Amateur Radio" for which a fee of £5/5/0 was offered for the one selected. The response was not very great but from those submitted the Executive chose that submitted by Mr. Allan Brown, VK3CX, who is himself an ardent DX'er, being the holder of many quite rare certificates from all over the world.

The preliminary art work has been completed and I can say that the certificate is a marked improvement on our old one and should take pride of place in any Amateur's shack. Quotes are currently being obtained for the final art work and the printing of the certificates which, incidentally, will be printed on a very fine blank certificate which the Executive imported from the Goes Company in America some few years ago.

Members will probably wonder what the position will be for those who already hold a certificate. It is proposed that holders of certificates will be asked to forward their old certificate back and a new one will be issued carrying the same data and other particulars.

I would like to record here that Mr Brown, upon being advised that his design had been selected, requested that the £5/5/0 be donated to the I.T.U. Fund, an action which I consider most praiseworthy and indicative of the real Amateur spirit.

It is with regret that I have to inform you that, after five years in the office of Federal Awards Manager, Mr. Gordon Weynton, VK3XU, has had to resign his post due to business commitments which preclude him carrying on this duty in the manner he desires. I would like to say how much we have appreciated Gordon's co-operation over the years in an office which requires quite painstaking care as to detail.

Effective as from May, 1960, Mr Alfred Kisick, VK3KB, will take over the duties of Awards Manager and I trust that members will give to Mr Kisick the same attention to correct methods when submitting their cards for checking as they have done in the past. Mr Kisick is a keen DX'er and I can assure you that he will devote his undivided attention to the task of looking after the Awards work of the Executive.

INTERFERENCE

A considerable number of reports from a large area of the Commonwealth has been received in relation to interference from the Government station VK3I which is frequently heard inside the lower end of the 7 Mc. band. The reports are currently being correlated by Mr David Rankin and as soon as a report is completed it will be submitted to the Postmaster-General's Department. From a cursory glance at these reports it would appear that

the problem is intermittent and that when in existence is due to faulty tuning of the transmitter.

In the future we desire to take much sterner action on interference problems registered within the Amateur band assignments than have been taken in the past. The Geneva Conference has shown that we have exclusive assignments and I consider that it is an urgent matter in the future to present all cases of interference through the correct official channels. There are, of course, a number of countries who are not signatory to International Conferences and these might be a problem. Nevertheless, I would suggest that each Division set up interference committees for the express purpose of accurately monitoring the Amateur bands and to report to the Executive who will take such cases up with the highest possible authority. Only in this way can we hope to keep usable our assignments which are gradually being encroached upon.

On the 23rd December, 1959, Bill Mitchell, Dave Rankin and myself sought council with the Central Administration of the Postmaster-General's Department in respect to television interference and the Amateurs' position in relation to it. Mr. George Scott, Acting Controller of Radio, and Mr. Charlie Carroll, of the Central Office, gave us a most intelligent hearing.

Although the t.v.i. problem is largely a matter of public relations there have been, nevertheless, a number of cases where the co-operation of the viewer has not been forthcoming. The Executive suggested the formation of a T.v.i. Committee composed of representatives from the P.M.G., T.v. Receiver Manufacturers, T.v. Servicemen, the W.I.A. and other frequency users whose transmitters can, and do, cause interference to t.v. viewers.

After a two-hour discussion on many aspects of t.v.i., the Department advised that it would fully investigate the Institute's requirements, particularly regarding its request that the Postmaster-General's Department include protective clauses in the Regulations Handbook along the lines adopted by the British Post Office whereby Amateurs have protection in cases where the interference to a television receiver is due to insufficient receiver front-end selectivity, faulty adjustment of a television receiver, lack of co-operation by the owner of a television receiver subjected to interference and so on.

In the absence of the Controller of Radio, who was abroad at the time with the Australian Delegation to the Geneva Conference, the interest by the Officers concerned was most laudible and a number of telephone calls was made to my office at work after the meeting seeking confirmation of further facts. The problem is a difficult one, so I do not anticipate an early result to our representations, the main thing being that a move has been made in the right direction.

Meanwhile checkouts with the Radio Inspector and the Australian Broadcasting Control Board has indicated that the number of cases of t.v.i. by Amateur Stations is very definitely in the minority. Just the same, we must give the matter our attention, particularly with new t.v. services coming into operation in other States and later on in country areas.

T.v.i. Committees have been formed in the VK3, VK4, VK5 and VK7 Divisions and I am informed they are doing excellent work, particularly in the field with assistance to members who are experiencing t.v.i. This is a real service which the W.I.A. can give not only to Amateurs but also to the public experiencing the interference, thus affording a public relation which must be to the credit of the Institute and the Australian Amateur Service generally.

PAPUA-NEW GUINEA DIVISION

It is with regret that I received notification of recent date that the Papua-New Guinea Division of the W.I.A. has found it necessary to wind up its affairs due to lack of interest and insufficient members.

I wrote to the Division some weeks ago in the hope that I could persuade them to carry on, even if with difficulty, because I am confident that New Guinea has a big future and the Division of the Institute could grow with it. This is born out by the expansion of population and private enterprise since the last war in a land rich with many vital world requirements.

However, this was to no avail, and a special meeting was called at which a vote was taken resulting in the majority for the closing down of the Division. Oddly enough, the Executive has found that the Federal Constitution has no provision for the disbanding of a Division so that matter is receiving current attention.

FEDERAL STATION VK3WIA

I made a promise to Federal Council last year that the Federal Station, VK3WIA, would be on the air by the time the late John Moyle left for Geneva and that regular news bulletins would be transmitted for the general information of members. Due to circumstances beyond my control this did not come about, but I am hopeful that it will be on the air some time later in the year when a new home will be completed for it.

I have been well aware that the Federal Council has not received all the information it is entitled to and I am therefore looking forward to a re-arrangement of my own domestic affairs by which more convenience will be available for the dissimination of the affairs of the Institute. These things take time and money to eventuate, so I trust you will bear with me until this re-arrangement is completed.

AUSTRALIAN AMATEUR CALL BOOK

Last year saw the sixth edition of the Australian Amateur Call Book and the first edition in the second five-year copyright granted to the W.I.A. by the P.M.G. Department.

The same high standard has attained with this publication and my personal thanks are extended to the Publications Committee who have done a sterling job whilst also producing "Amateur Radio" each month up to its usual high standard.

Editor, Ron Higginbotham, VK3RN, resigned recently and Kel Cocking, VK3ZFQ, has taken over the editorship. Federal Council had the opportunity of meeting Kel at the Easter Extraordinary Meeting and I think you will agree that we have a real live-wire on the job.

The new Edition of the Call Book is estimated to be available in July.

In conclusion I would like to extend my thanks to the Federal Council, members of which have been so tolerant during these many months of a short-staffed Executive, and to also thank those members of the Executive who have so ably assisted me as your Federal President in carrying out the various duties concerned with operating the ex officio office of the Federal Council.

I can assure you it has been no easy task but with the willing assistance of the Federal Council itself, in the future I am satisfied that the Australian Amateur Service can look forward to a definite up-grading as it expands its activities and its membership.

—G. Maxwell Hull, Federal President.

WIRELESS INSTITUTE OF AUSTRALIA—FEDERAL EXECUTIVE

BALANCE SHEET AS AT 29th FEBRUARY, 1960

Current Liabilities—				**Current Assets—**				
Creditors	£18	14	10	Cash on hand	£8	0	0	
Convention Fund	11	11	10	Commonwealth Savings Bank (Society A/c.)	973	2	7	
Trust Fund	6	6	0	Debtors	13	11	1	
I.T.U. Fund	521	15	8	Stocks on hand	50	0	0	
	£557	6	8		£1044	14	0	
Accumulated Funds—				**Fixed Assets—** (at cost less depreciation)				
Balance, 1st March, 1959	£687	3	7	Filing Cabinet	£7	0	0	
Less, Excess of expenditure over income for year ended 29/2/60	83	13	9	Stationery Cabinet	13	9	10	
	604	9	10	Typewriter (No. 1)	17	0	0	
				Typewriter (No. 2)	27	0	0	
				Trophy, Ross Hull	16	12	0	
				Trophy, R.D.	3	10	0	
				Equipment, VK3WIA	59	10	0	
					147	1	10	
	£1191	16	6		£1191	16	6	

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 29th FEBRUARY, 1960

EXPENDITURE				INCOME			
Audit Fees	£8	8	0	Per Capita Payments	£9	6	2
Loss on Sale of Badges, Log Sheets and Sundries	13	3		Sale of Surplus Equipment	5	0	0
Depreciation	30	13	0	Bank Interest	42	8	7
Federal Contest Committee Expenses	5	0	0	Deficit to Accumulated Fund	52	13	9
QSL Bureau Expenses	13	0	0				
DXCC Expenses	3	7	3				
Postage and Telephone	24	19	5				
Printing and Stationery	8	5	0				
Insurance	7	12	7				
Licence, VK3WIA	1	10	0				
Secretarial Assistance	6	6	0				
	£109	8	6		£109	8	6

We have examined the books and vouchers of the Wireless Institute of Australia (Federal Executive). In our opinion, the above Balance Sheet is properly drawn up so as to show a true and fair view of the state of the Federal Executive's affairs as at 29th February, 1960, and that the attached Income and Expenditure Account is properly drawn up so as to show a true and fair view of the results for the year ended 29th February, 1960. Stock on hand at 29th February, 1960, has been accepted on the Certificate of the Treasurer.

Melbourne, 2nd May, 1960. DAVID FELL & CO., Chartered Accountants (Aust.)

VHF

Frank P. O'Dwyer, VK3OF
180 Thomas Street,
Hampton, Vic.

FIFTY MEGACYCLES

Es ran to a 28-day cycle during July for east coast work with openings VK4 and northern VK2 to VK3/5/7 at the beginning and end of the month. VK4, fortunately placed, copped it both ways, JA signals popping in and out to provide entertainment. The July Es activity augurs well for the coming season with the slide down the trailing edge of the sunspot cycle. Es, if it follows the pattern of the early 50's, will improve over the next few years. What is going to happen to F2 and TE remains to be seen. Activity will be at such a high level that not too much appearing on the band will be missed. That is, activity aided by hot receivers and the larger beams which are now becoming the vogue. The biggest planned so far that I know of is the brainchild of David 3ZAT, a 48 feet long effort. Monitors for Channel 2, sound only, are simple to construct and should prove a boon to spot the climb of the m.u.f. and provide a warning that 50 Mc. is on the verge of opening for lower power.

The notes from Russ 9XK are a welcome addition once again and more contacts should be made with that area towards the end of the year. Check the new calls active there. Those former Z calls now active with full tickets on the d.c. bands. On all your Pacific country contacts, try and stimulate interest on 50 Mc. Try to pressure your contacts into going active on 50 Mc. if they are not already active there, and if they are already active to swing their beams VK-wards. Tell them that W and JA lands are not the beginning and end of all DX contacts. Organising now will help towards promoting an extra successful DX year.—3OF.

NEW SOUTH WALES

General.—The July monthly meeting was well attended and heard a very well presented lecture by Bob 2OA on the use of hybrid tubes in mobile receivers. He demonstrated the talk with a rx unit built by John 2ZAV. We were able to make use of the new double sized room which has comfortable room for 50. Also at this meeting a discussion was held on receiving problems on 144 Mc. and the outcome of this will be two lectures to the Group, one in September on "Crystal Grinding," and the other in October on "Selectivity of Receivers." The idea behind this is to move out of the dogpiles on the "popular" frequencies and to be able to separate stations spaced 10 Kc apart. This will allow 100 stations per megacycle, which will fulfil present needs.

At the meeting the President's Trophy for the greatest number of points in competitions for 1959 was presented by the Past President, 2ZAV to Jim 2PM.

The major activity during the month was the Midwinter Contest, with a very large participation. Logs are due in as this goes to press, and the results will be in the next issue of "A.R." Forty odd stations took part and contacts were made on three v.h.f.-u.h.f. bands.

The big coming event is the Spring Field Day. This has been set down for Sunday, 2nd October, 1960, and this year will take the form of a long distance relay and an opportunity for DX working. Operation will be on 144 Mc. band and it is hoped to relay a message 1,000 miles. A programme has been sent via Country Zone Correspondents to most interested Hams, but if you have been missed out and want to take part, please drop a line to your Liaison Officer, VK2ZAG, listing your call sign, frequency, power, proposed location (home or field) as soon as possible.

The night Fox Hunt on 27th July found the tables turned with the hounds being "fox hunted" by certain gentlemen. It seems that due to some misunderstanding the fox found himself on private property, together with some of the hounds. Some confusion arose, some hurried explanations were given to the police, and we hope were accepted. The moral of the story is to keep off private property and stay on the Queen's highway (or byway).

50 Mc.—Except for local activities during the Midwinter Contest, the band has been dead. Gordon, ex-2ZGW, is now in VK9 with 50 Mc. gear, keeping regular skeds with Keith 2ZVL.

144 Mc.—Activity is spasmodic, with week nights "weak" nights. 2QW heard again after some time, also 2VL and 2AKK. 2FA putting in a nice signal during the contest. Several other stations worked by your scribe for the first time were 2KO, 2AWW, 2ZOL and 2EB.

Procedure for reporting in after Sunday night 2WI Broadcasts has been changed. Should you desire to record the fact that you have heard the broadcasts but do not want to talk to 2WI, then your call sign only is repeated at call back. For a contact, add "Q" after your call and you will be called in after the call back list. This change has eliminated the long wait which occurred on the old system.

Broadcasts for the next four months will be done alternately by 2ZAG from Dural on 145.13 and 2AWZ from North Ryde on 145.0 Mc.

576 Mc.—Activity still fairly good. 2ZAC and 2ZCF have had contacts using xtal controlled tx's at both ends. They are using QQE03/20s. Sigs were 5/9 both ways over the 13-mile path. A newcomer is 2QW. Alan has a xtal controlled tx and is using an AB58 rx. He is 58 at the QTH of 2ZCF. Roy 2HO and Barry 2ZAG are still completing their rigs with 4X150G finals. —2ZAG.

VICTORIA

Len 3ZGP is changing location at the moment and so your v.h.f. scribe for the next few months is David 3QV, ex-3ZAQ. Any notes you think may be of interest send to 3QV direct—address in the new Call Book.

50 Mc.—Some VK4 and northern VK2 stations coming through on sporadic E on 30th July injected some interest back into the operators on this band. Nothing much else for the month of July.

Rex 3VL has now moved into Numarkah proper and is on 50 with a 3 el. yagi, 60 ft. high. He has worked a number of stations in Melbourne including 3PG and 3AZY. Rex is anxious to make Melbourne contacts and is set for c.w. if required.

David 3ZAT is now operating from Ripplebrook using a.m. or s.s.b. He works into Melbourne quite well over the 50-mile path. Ripplebrook, by the way, is near Drouin. Ian 3ALZ is another with a really loud sideband signal on this band now. It sounds as if he may have added a high power final to the little rig.

144 Mc.—This band can be very dead at times and yet there are plenty of people with gear operable. Since I came back on the band in mid-July, I have logged over 30 different stations. Some of the newer calls around are Bert 3ZFC at South Morang, 3ZHM at Maidstone, Alan 3ZJO at Glenroy, 3ZHI, and of course 3QV.

After being absent from the band for some 1½ years, I have noticed some differences. Firstly, there is an almost completely new generation of operators and, secondly, there appears to be a more widespread use of large beams up a reasonable height. 10 el. yagis abound. Geoff 3ZFX has a 24 el. one and George 3ZGE has a 10 over 10.

The only country stations heard were Dick 3DG at Lancefield and George 3ZCG, first at Moe, and then at Lang Lang. The latter is some distance south of Moe and yet on the first contact with George at the new QTH my beam peaked in the Moe direction. The signals must have bounced off the Dandenongs, which would explain the odd QSB and the relatively weak signals—4 x 4 both ways, because Lang Lang is only 45 miles approx. S.E. of Melbourne.

Frank Williams, ex-3ZDW, is now 3AFW and I think a couple of other "Z boys" have passed the c.w. but I haven't been able to catch up on them yet.

288 Mc.—Ron 3ARV has passed along the information that some dozen members of the North Suburban Amateur Group are preparing for an onslaught on the 288 Mc. band. The club station, 3AVZ, is expected on and whilst most will be using mod. osc.-super regn. combinations, some will be using stabilised equipment.

Activities.—For the benefit of those who do not know and for those that have forgotten, here is a list of the V.h.f. Group activities held in VK3: 2nd Sunday of month, 144 Mc. Scramble (1945 hrs.); 2nd Wednesday of month, 144 Mc. Fox Hunt (2000); 3rd Wednesday of month, V.h.f. Group meeting (2000); 4th Sunday of month, 50 Mc. Scramble (1945). Numbers in brackets indicate starting time of the event in E.A.S.T.

Nineteen members attended the July V.h.f. Group meeting to hear Ron 3ARV speak on Astronomy. His subject matter ranged from outer galaxys to meteor showers incident on earth. A number took down dates of these showers, so perhaps I shall have some meteor scatter QSOs to report. The meeting passed a vote of thanks to Ron in the usual way.

Visitors and rarely-seen faces at the meeting included Bill 3ARZ, Des 3YA, 3ABP, Ron 3ARV, Ray 3ZQ and Mac Hilliard. Hope to see more of you fellows at future meetings.

Well that's the lot for this month. See you next time if I have any news.—3QV

As usual, the bulk of activity in the Eastern Zone has been on 2 mx. Since our last notes appeared we have held two scrambles. The first was held on 3rd July, control station was Stan 3ZAB, who has the ideal station location in Traralgon. The following entered: 3ZBV, 3ZCG, 3ZAQ, 3ZDP. The result was a tie for first place between 3ZAQ and 3ZCG. A separate contest was held to decide the ultimate winner; 3ZAB sent a signal, the idea being to work out the signal frequency and then the frequency of the rock. 3ZAQ emerged as the ultimate winner. Second Scramble on 17th July was declared a "no contest," since only three stations appeared.

Scrambles are held on the first and third Sundays in the month at 8 p.m. All Amateurs in the zone are urged to make every effort to be on the band during this period.

Members of the R.A.A.F. Radio Club, 3ASS, will be sorry to see the resignation of Reg. He was a founder and operator of the club. We hope when time permits that Reg can come back with us again. George 3ZCG is doing fine business with a 100w linear on 2 mx, sends out 59 signals from Moe to Melbourne and Sale. David 3ZAT has shifted QTH from Maffra. His DX signals on 2 and 1 mx will be missed by VK7 and VK3s in Melbourne and Geelong. John 3ZFO has proved that v.f.o. on 2 mx is very practical.—3ABC.

QUEENSLAND

50 Mc.—No DX heard at 4ZBI's QTH, only a few local contacts with Bill 4WD, Mick 4ZAA, John 4PU—first QSO for many weeks, his voice faded away again. Dane 4ZAX, Vic 4ZBT and Ross 4ZAT. Ross has been doing his share in the emergency set-up in relation to the trawler wreck in Morton Bay this week. 4ZBI was on call for a day, just in case. Good work Ross. Believe Allen 4ZBF is mobile again, 4ZBY is on 2 mx, Vic 4ZBT is contemplating mobile on his 2-stroke, running 1w. to pentode section of a 6U8 on 6 mx, in-built a.c. supply. Believe also that Bob 4NG worked Doug 4PG on the 10th. Lance 4ZAZ did the same. Bill 4WD runs that much power on 6 (is it) that he has had to buy a new picture tube. To cap it all, 4ZBI went and converted his YL into XYL on the 2nd and never said a word. Beat you to it, Bill 4WD (4ZBI).

144 Mc.—4ZAV I think is building mobile, 150v. at 50 mA. power supply, about 1w. input I guess. Quite a lot of activity on 27 mx, 4ZBI has his tx half way finished, now must pay a visit to 4ZAT's shack for grid-dip calibrating.

General.—Dane 4ZAX leaves very soon for VK5, we'll be able to give you a number in the next R.D. Contest, Dane. Congrats to my pal, George 5ZGA, for the new call of 5GG. Do not entirely forget us all up here on 6 will you George.—4ZBI.

SOUTH AUSTRALIA

50 Mc.—DX on 50 has been non existent in VK5 for July and apart from some weak unidentified carriers heard by Mick 5ZDR on 24th there has been no sign that the band might open. However, there has been fairly good local activity on the band and some of the VK5 gang have been making modifications and repairs to their gear.

Stuart 5ZDG has completed his new modulator featuring the new KT88s and they seem to be doing an excellent job. At the time of writing, Stuart is also in the process of changing QTH. Some of the newer 50 Mc. men have been erecting new beams to do business with the DX. Bill 5ZDJ and Geoff 5ZCQ are two such gents and both stations have been quite active over the last month. Al 5ZCR dismantled his antenna farm for repairs to the big 50 Mc. six element, and whilst the 50 Mc. yagi was restored to the mast, unfortunately the 144 Mc. and 288 Mc. yagis were left on the ground. It is hoped that they will be replaced in service soon, as activity on the two higher bands is badly need. What say there, Al?

Graham 5ZAP has not been so active of late due to pressure of work, is building a new rx for all bands. Others active included 5ZDR, 5ZFM, 5ZBL, 5MK, 5ZDQ, 5ZCJ, 5XV, 5ZDH and 5ZBZ. The bulk of mobile activity has been provided by 5MK, 5ZDR and 5ZBZ.

144 Mc.—Two metres has had a "shot in the arm" when Mick 5ZDR recently built a 2 mx tx running an 832A in the final. Results have been excellent and Mick has had many cross-band duplex contacts lasting many hours in some instances. A rx for "two" is now on the "drawing board" and Mick will be looking for

(Continued on Page 31)

DX

John C. Pinnell, VK2ZR
15 Summit Avenue,
Earlwood, N.S.W.
Phone: UW 4248.

Last month my source of information had dwindled to a very low level and band conditions had become erratic. It seemed as though we were taking a steep dip into poorer DX times as predicted in a number of articles about lessening of sunspot activities. Things have changed again. This month information is more plentiful and the bands are more active.

Perhaps the boys became rather discouraged by these published articles forecasting old Sol's moods, and when some slackening in conditions started a few weeks ago decided to have a rest. I feel that it was this rest, after four years good DXing, that aggravated what might have otherwise been only a mild slump.

When the bands are empty it is often because there is nobody there—not conditions. Last month I mentioned in these notes that fifteen had frequently "dried-up" except for W/K novices. These novices were often coming through very strongly and several I worked were using much less than 70 watts. The DX boys were not active.

There will be plenty of DX right through until the next sunspot period if we wish to seek it out. It will mean careful planning, changing of bands, careful listening and more CQs. 80 and 40 mx will be used a lot more while 10 mx will just about pass out.

I wish to make it clear to all those who are new to DXing that they will not have to wait until we are across the sunspot valley to work DX again. It will be there most of the time, but you will have to work harder to get it. Good hunting.

NEWS AND NOTES

The new BV3 call signs heard of late are reported to be from native Formosan operators.

XE0QLT/XE5 has been operating from Alacran Reef, in the Gulf of Mexico. This reef is about 100 miles due north of Merida, Yucatan.

XE5A is located on the Isla Mujeres, also in the Gulf of Mexico, about three miles off Quintanaroo, Mexico. The island has a small village on it also named Isle Mujeres. (K9QVE).

By the time you read this, XE5A will probably be on the Cozumel Islands which is about eight miles from Isle Mujeres. He is mostly on s.s.b and a.m. and has been heard at 1400, 2000 and 0200z.

XE1SN has joined the operating staff of the proposed Mexican DX-pedition to leave for the Socorro Island in about two months' time.

ZL4JF on Campbell Island has no mail service so QSLs could not be answered until his return to ZL-land, probably sometime in November. Jock White, 86 Lytton Rd., Gisborne, New Zealand, will handle his QSLs for you on receipt of a self-addressed envelope and I.R.C., otherwise all cards will go via world bureaux.

ZL3VB is still active on Chatham Islands and can usually be found between 0430 and 0630z Sundays. His c.w. is on about 14010 Kc.

VR1D is located on Funafuti Atoll, Ellis Islands, and he will be there for about one year. (ZL3GX)

It is understood that MP4MAB/4W1 will be active fairly often from Yemen but on no fixed schedule. Brian is an air line official and visits Yemen frequently.

Graham VK2AGH had a long QSO with Gus Browning, W4BPD, who said he was leaving on an extended tour of Europe, Africa, and the Middle East. He is taking a complete set of radio equipment and it is understood he has permission to operate from a considerable number of places. He has visited or intends to visits: DL6ZZ, DM2XLO, DM2ADL, DL7AH, DL3JJ, DJ2PJ, OK1FF, OK3EA, PX, ZA, 3A2, Sept. 7 to 15; IC1, Compino Disalia (apparently will be an entirely new one), then to HV1CN. He will then move on to M1, SV1AB, OD5LX, YK1AK, SU1IC, ST2AR, ET3, VQ4GT. He should be at VQ9HB on October 20. He will then travel by boat to Platte and on to Coativty Algeria, then a stop at Farquahar for a few days. Next on to Astove FB8, VQ7, and via FB8BC and FB8ES where he will try for Tromelin Islands. After that to FR7, VQ9 where he will try and rent a boat for St. Brando Island. Then back to VQ4, on to VQ1, VQ3, VQ5, 6O1, 6O2, VS9 and VS9K, to FL8, ET1, 4W1 and 2K2, then back home. Will be on c.w. only. 2AGH has set up skeds with two of his base stations in W-land and it is hoped times and dates will be available from time to time as the DX-pedition progresses.

The "6O" series of new prefixes is for the Mali Republic which was British and Italian Somalilands. 6O1 and 6O2 are ex-VQ8. 6L2 is ex-I5. Incidentally, OQ5 is now 9Q5 [illegible].

There is a possibility of licences being issued after the Turkish elections this month.

FE8AY will soon be leaving French Cameroons and then FE8EH will be the one and only active station in this rare spot.

KJ6BV is on his way home from Johnston Island which leaves this spot without any Amateur Radio representation.

AC3CN from Sikkim has been heard on 14310 Kc. a.m. at 1850z.

Anyone who worked HB1TL/FL during the week-end 11/12th on s.s.b. from Liechstenstein should send their QSLs to HB9TL or via the Bureau.

VK9DJ is operating from Cocos-Keeling.

Ted VQ9TED will be operating from the Seychelles from August 1960 until the middle of March 1961. He will make trips during that period to the Aldabras, Chagos, Mauritius and other north-west Indian Ocean spots.

SU1MS is leaving Egypt and will be active from Germany as a DJ0. He wishes all future QSLs go to him via W8QNA, or via DL3JJ, not to his SU1MS address.

9N1GW is hoping to be on the air from East Pakistan during September. Also listen for AP2CR on 14 Mc. s.s.b.

All the cards for the VU2ANI have been mailed. Cards were sent direct if a s.a.s.e. or I.R.C. was provided. The remainder of cards were sent to the various bureaux. Persons who did not receive a card should write to VU2AK.

5A5TR is ex-YA1IW, and can be reached at P.O. Tripoli, Libya. He will be glad to furnish cards for contacts while in Afghanistan, for those who did not receive them. (W8PQG)

ZA1BAK seems to be OK. His name is Bakirt and rumor has it that he attended a DM Convention some time ago. According to R.S.G.B. Bulletin, his QTH is Shnum, Tirana, Albe[illegible].

UA1DZ says there is positively no Amateur operations from Franz Josef Land as of July 9. (W4OPM)

Rundy W3ZA has just been assigned the following call signs: MP4BDD, Bahrain Isl., MP4MAG, Muscat/Oman; MP4QAQ, Qatar, and MP4TAI, Trucial Oman. He has no immediate plans to use these calls, however He's at OD5CT and will be at W2ZA/EP later. QSLs for Rundy's QSOs at VS9AZ should go via the R.S.G.B. only, not via W3JXH, as is usual. (WEHMJ)

CR6CA will leave at the end of August for a one-month DX-pedition to the following places: Sao Thome Island and will sign CR6CA/CR5 on a.m. and s.s.b. only; next to Ajuda Island as CR6CA/CR5, will use c.w., a.m. and s.s.b.; also Annobon with same call sign and mode of operation. It is understood that the A.R.R.L. has given new country status for both Ajuda and Annobon Islands. He will also visit Spanish Guinea and hopes to operate as CR6CA/EA0 on a.m. and s.s.b. if the Spanish Government permit arrives in time.

Further information on DXCC countries credits: Muaritania, FF7, credits from June 20, 1960, Ruanda-Urundi, 9U5, from July 1, 1960; Cayman Island, VP5, reinstated as separate country from Jamaica as of July 15, 1960; British and Somaliland, VQ6, and Italian Somaliland, I5, good only up to July 1, 1960; Karelo-Finnish Republic, UN1, now counts as UA1-6, and is good only up to June 30; Wrangel Island, credits good only up to July 15, 1960. (K5MDX)

Harry JZ0DA, who is world renowned for his activities in the Netherlands New Guinea, will be back to his JZ0 QTH this month and expects to be on the air again in November. He has been on a vacation to his homeland in Europe.

SM1BVQ is active on Gotland Island on 14 Mc. c.w. around 2200z.

A DX-pedition to Rockall Island is being planned for September or October. It is understood that it will have DXCC status. (W8QHW)

John VQ4HT, in Narobi, Kenya, is active daily commencing at 2100z. He is on 14 Mc. c.w.

The successful DX-pedition of KG6ICD on Marcus Island has spurred Earl KA2GI into planning another trip for more operating during January 1961. A number of other KAs are expected to make the trip and they hope to operate from three separate places. At least 80 per cent. c.w. will be used.

Danny Weil's attempt to circumnavigate the globe is still encountering obstacles. It appears that Dave ZL1AV will not be continuing the trip past the Canal Zone, and Hallicrafters have withdrawn some of their equipment from the Yasme III. Danny intends to be on Galapagos, HC8, late in August and early September, then to Clipperton Island and on across the Pacific. Let us hope his troubles can be straightened out and the trip is successful.

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W2AYN/EP is on every Sunday afternoon on 20 with a T7 note, QSL via A.R.R.L. (L3023)

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ZD9AM, Gough Island, is active on 21,200 Kc. from 1200 to 1500z. Most times he is beamed on Capetown.

ACTIVITIES

Eric **BERS-198** has supplied quite a bit of information for the notes this month. He is now Acting Federal QSL Manager for Ray Jones, who is on a trip overseas. Our QSL cards could not be in better hands. Eric landed a QSL from W0SDN (North Dakota) to complete all States and can now claim "H.A.S." He also got a card from ex-VK4IC, Willis Island. I guess a few more would like that one! Other cards: CO7NR, KM6BI, LX3PF, MP4BCV, OR4TX, VP9CX, VU2XG, ZK1AR, 5M8RX, W1BVF/MM 3.5 Mc. c.w. heard: ZL4JF, Campbell Island. 7 Mc. heard: DM3YHO/P, EA1HE, G2FDF, G3DRQ, G3FMN, G3JUL, SM2AQB, SM8AZN, SP2RQ, SP5OA, SP6AAT, SP6FZ, UA1KAW, UA3LI, UB5KSR, UR3KAT, W3WQN/MM, W8QOH/MM. 14 Mc. phone: VK9RH. 14 Mc. c.w.: CO2BW, CX1BO, W2AYN/EP, LU1FAA, KM6BT, PY2EJ, UL7KAA, UQ1AX, VR1E, LA7RF/M.

F **Seeber** found the conditions have been very poor but this month improved. Here is his list of 14 Mc. phone: VK0RL and WH Macquarie Island, VK0BH Mawson, FK8AU, FA8CF, CN8CS, G2PU, G3KS, HB9VW, KC4USH, KL7BJC, OH1WR, TI2PL, XE1DO, and XE1IL.

Don **L2012** is still unsettled in new QTH and has aerial 20 ft. long and about 7 ft. high. Still he managed to land a few good ones which enabled him to reach the 200 heard mark. 3.5 Mc. phone heard: FK8AU, ZL4JF Campbell Is. 7 Mc. c.w. heard: VR2DK, JA1ACA, JA8HK, JA8QN, UM8KAB, SP1AFM, W/Ks, phone, lots W/Ks. 14 Mc. c.w. heard: VE0MC, KG6AJT VR4CW, W2AYN/EP, 5A2CU, KC6JB, ZL3VB, ON4TT, YO3RI, HA5FQ FB8XX; phone VE7ALR, XE1IL, VR2DC, VR2DP, and HC1FG.

Graham **2AGH** supplied quite a swag of material for the News and Notes.

Noel **2AHH** found the 28 Mc. phone band useful up to about 0300z, particularly at weekends. Worked: CT1CL, CT1KI, YN1AW, KZ5MB, TI2LA, s.s.b. W/Ks. 18 Mc. phone, 2000-2100z worked several Gs but QRM band, Central Americas very good from 0100 to 0330z, Mediterranean 0500z and South Africas around 0700z; worked, 4X4MG, 4X4TU, YV5AMJ, YV5AQS, YV5AFF, XE1MO, PZ1AX, PZ1BP on c.w., YU3OV, ZS6CV, ZS6AXJ, G3FSP, G2EHT, HH2LD, HK1HV, ZS6AXF. 14 Mc. c.w. work.: EA1BC, EA8CG 0800z, CN8LE, not much time spent on this band. Noel still needs Zone 2 for W.A.Z. but finds W/K QRM when one does come through.

Bud **2AQJ**'s list was all worked s.s.b. between 0600 and 1100z. 14 Mc.: W1BBA, W1GPE, W2DMJ, W3JOH, K4TLB several times, W6HX, K6ZZU, W7ADS, KA2VT, KA2HM, KJ6BV, VE2HI, VE7IT, VE7ZM, VK0CX, 7 Mc. W7MVF; 21 Mc. ZL1ATQ.

Laurie **2AMB** heard VK0WH on 7 Mc. phone. 14 Mc. c.w. worked: FB8YY, VK0PM Davis, PX1PF, CM2GN, ON5TT, ZL3VB Chatham, and heard HC2CS. KC6JB, YS1O, CO2US. Phone worked: TG9CP, I1LT, VR2DC, EA3NG, heard YN1WW. Received a card from VQ2EW.

2QL has not been very active this month due to his wife being ill. Hope she has a speedy recovery Frank and things come back to normal again. Frank reports the following stations were active on 3.5 Mc.: UB5WR, DL1FF, DL1FZ, DU7SV. He received QSLs from VR3V, VR3Z, ZS7M.

2ZR, worked 53 Europeans, many Ws, Asia, on 14 Mc. c.w. Gs, DLs, Fs, HA5KFH, LA2Q, OHs, OKs, UAs, UC2BW, UC2KAO, UQ2DO, UQ2DB, UP2KHB, ONs, HL9KT, UAas, KL-

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Eric **BERS-198** has supplied quite a bit of information for the notes this month. He is now Acting Federal QSL Manager for Ray Jones, who is on a trip overseas. Our QSL cards could not be in better hands. Eric landed a QSL from W0SDN (North Dakota) to complete all States and can now claim "H.A.S." He also got a card from ex-VK4IC, Willis Island. I guess a few more would like that one! Other cards: CO7NR, KM6BI, LX3PF, MP4BCV, OR4TX, VP9CX, VU2XG, ZK1AR, 5M8RX, W1BVF/MM 3.5 Mc. c.w. heard: ZL4JF, Campbell Island. 7 Mc. heard: DM3YHO/P, EA1HE, G2FDF, G3DRQ, G3FMN, G3JUL, SM2AQB, SM8AZN, SP2RQ, SP5OA, SP6AAT, SP6FZ, UA1KAW, UA3LI, UB5KSR, UR3KAT, W3WQN/MM, W8QOH/MM. 14 Mc. phone: VK9RH. 14 Mc. c.w.: CO2BW, CX1BO, W2AYN/EP, LU1FAA, KM6BT, PY2EJ, UL7KAA, UQ1AX, VR1E, LA7RF/M.

F **Seeber** found the conditions have been very poor but this month improved. Here is his list of 14 Mc. phone: VK0RL and WH Macquarie Island, VK0BH Mawson, FK8AU, FA8CF, CN8CS, G2PU, G3KS, HB9VW, KC4USH, KL7BJC, OH1WR, TI2PL, XE1DO, and XE1IL.

Don **L2012** is still unsettled in new QTH and has aerial 20 ft. long and about 7 ft. high. Still he managed to land a few good ones which enabled him to reach the 200 heard mark. 3.5 Mc. phone heard: FK8AU, ZL4JF Campbell Is. 7 Mc. c.w. heard: VR2DK, JA1ACA, JA8HK, JA8QN, UM8KAB, SP1AFM, W/Ks, phone, lots W/Ks. 14 Mc. c.w. heard: VE0MC, KG6AJT VR4CW, W2AYN/EP, 5A2CU, KC6JB, ZL3VB, ON4TT, YO3RI, HA5FQ FB8XX; phone VE7ALR, XE1IL, VR2DC, VR2DP, and HC1FG.

Graham **2AGH** supplied quite a swag of material for the News and Notes.

Noel **2AHH** found the 28 Mc. phone band useful up to about 0300z, particularly at weekends. Worked: CT1CL, CT1KI, YN1AW, KZ5MB, TI2LA, s.s.b. W/Ks. 18 Mc. phone, 2000-2100z worked several Gs but QRM band, Central Americas very good from 0100 to 0330z, Mediterranean 0500z and South Africas around 0700z; worked, 4X4MG, 4X4TU, YV5AMJ, YV5AQS, YV5AFF, XE1MO, PZ1AX, PZ1BP on c.w., YU3OV, ZS6CV, ZS6AXJ, G3FSP, G2EHT, HH2LD, HK1HV, ZS6AXF. 14 Mc. c.w. work.: EA1BC, EA8CG 0800z, CN8LE, not much time spent on this band. Noel still needs Zone 2 for W.A.Z. but finds W/K QRM when one does come through.

Bud **2AQJ**'s list was all worked s.s.b. between 0600 and 1100z. 14 Mc.: W1BBA, W1GPE, W2DMJ, W3JOH, K4TLB several times, W6HX, K6ZZU, W7ADS, KA2VT, KA2HM, KJ6BV, VE2HI, VE7IT, VE7ZM, VK0CX, 7 Mc. W7MVF; 21 Mc. ZL1ATQ.

Laurie **2AMB** heard VK0WH on 7 Mc. phone. 14 Mc. c.w. worked: FB8YY, VK0PM Davis, PX1PF, CM2GN, ON5TT, ZL3VB Chatham, and heard HC2CS. KC6JB, YS1O, CO2US. Phone worked: TG9CP, I1LT, VR2DC, EA3NG, heard YN1WW. Received a card from VQ2EW.

2QL has not been very active this month due to his wife being ill. Hope she has a speedy recovery Frank and things come back to normal again. Frank reports the following stations were active on 3.5 Mc.: UB5WR, DL1FF, DL1FZ, DU7SV. He received QSLs from VR3V, VR3Z, ZS7M.

2ZR, worked 53 Europeans, many Ws, Asia, on 14 Mc. c.w. Gs, DLs, Fs, HA5KFH, LA2Q, OHs, OKs, UAs, UC2BW, UC2KAO, UQ2DO, UQ2DB, UP2KHB, ONs, HL9KT, UAas, KL-

(Continued on Page 21)

z zero time—GMT.

SIDEBAND

Bud Pounsett, VK2AQJ
22 Seiffert Centre,
Queanbeyan, N.S.W

VISUAL MONITORING

One of the complaints that many of the gang level at sideband stations is the apparent broadness of the signal. A lot of the time, the sideband signal is not at fault and the trouble can be traced to the other fellow's receiving techniques. However, this is another story. Sad to say, sometimes the s.b. station is transmitting a signal many kilocycles wide and often has no means of knowing this unless someone tells him so.

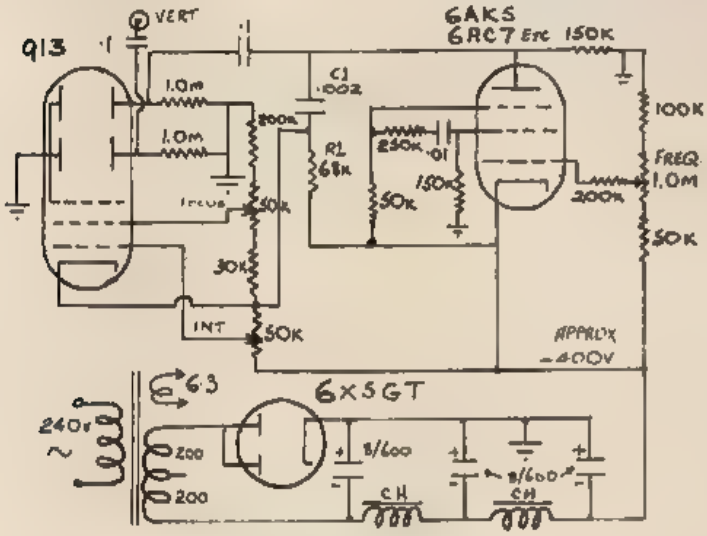

Fig. 1.—Visual Monitor.

Ask yourself this question, "Can I be sure that I am not hitting it too hard and causing interference to my fellow Amateurs?" If the answer is in the affirmative you must be using a device similar to the one Ron VK3AHJ has installed on his transmitter panel. This rather simple and inexpensive oscilloscope can tell you all you want to know about your own signal. It can give you the assurance that your signal is clean and can put a stop to those embarrassing reports of distortion, wide signals and, let me be blunt—the other fellow is probably too polite, just plain rotten operating

To give a brief description of the circuit (Fig. 1) the c.r.o. tube need not be a 913, of course, it can be any size with modification to the supply voltage, but a 913 fits so nicely into a linear amplifier The sharp cut-off pentode tube (6AK5, 6AC7, 6AM8, 6AU6) is in a transitron oscillator to give a slow time base and this circuit has fly-back blanking. C1 and R1 provide this facility. After you have it wired into your equipment a little experimenting will soon show you how it operates. I would draw your attention to page 149 of the "Single Sideband for the Radio Amateur". It is "must" reading for every s.b. operator.

H.T. SUPPLIES

Providing 750 to 1,000 volts for the final has always been a problem, especially pocket wise. High voltage transformers, mercury vapour rectifiers and other necessary components can add up to quite a total. There is usually a way out and Tom VK2ET has found it.

This circuit (Fig. 2) is the bridge circuit found in many commercial applications but not often used in Amateur circles. Using a 385-0-385 volt 150 mA. transformer and an extra couple of 5-volt windings and three cheap rectifiers plus normal filter components, about 800 volts is available at full output for a pair of 6146 tubes. Some of the new silicon diodes of sufficient voltage and current rating would be a very attractive replacement for the 5V4G tubes and would do away with the filament supply transformers.

An 80 mA. transformer could be used as the average drain for s.s.b. is quite low. WARNING.—Don't run a continuous carrier for any length of time. Your transformer may not stand the strain. ALWAYS remember that your high voltage supply is a killer, be careful, and very important, cover up the high tension points in your equipment. YOU may know which parts to keep clear of, but, do the children?

Another method of obtaining cheap high voltage is to use two identical receiver-type power transformers in a conventional circuit, wiring the primaries in parallel and the secondary windings in series. Remember that you have to phase them correctly or no output will result.

THE YANK DOWN UNDER

Chas. Noble, VK4RQ, of Brisbane, is one of our interesting sidebanders. After long and meritorious service in Uncle Sam's Navy, Chas. came out to Australia for a six-month visit—that was 12 years ago! In that time Chas. has raised a family and a cubical quad which he is exciting with an Apache TX1 and an SB10 Sideband Adaptor. He has also gained considerable fame and glory by being a runner-up in the monthly "CQ" QSL competition. The card is a very attractive one and, after a contact with VK4RQ, can be had by applying by QSL to P.O. Box 94, Broadway, Brisbane, Qld.

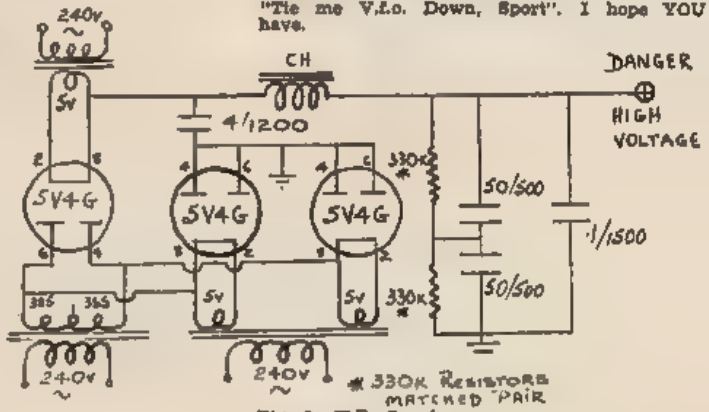

Fig. 2.—H.T. Supply.

MOBILE S.S.B.

Reg VK2AI will be mobile s.s.b. on 7 megs. from Sept. 8 to approximately Sept. 26 in an area bounded by Wagga Wagga, Melbourne and all being well Shepparton and Swan Hill. As Reg is crystal controlled on about four frequencies, he would like to hear from s.s.b. or a.m. stations in his range.

S.S.B.A.R.A.

The Single Side Band Amateur Radio Association has made the suggestion to bulk airmail copies of their magazine—"The Sidebander" to me for distribution. This will get "The Sidebander" to you a few days after publication in the United States with the hot s.b. news still hot.

W8YIN, Mickey Ungar, is DX Editor, and his page will make your mouth water. If you would like a membership application write to me at the above address. The yearly subscription is 30 shillings and, if you wish, send postal notes or a cheque to me and I will arrange the U.S. currency and forward your application.

Thank you all for your continued support, chaps. If you have any items for the s.b. notes let me have them as soon as time permits. However, if your item is large enough to make a full article, send it direct to the Editor, complete with circuits and photos if you have them. And finally, a variation on a theme—"Tie me V.f.o. Down, Sport". I hope YOU have.

VHF

(Continued from Page 19)

further contacts. The only other active VK5 station on 2 is 5ZBZ, but Gilbert 5GX should be on shortly.

288 Mc.—One metre is a band which varies between wide limits in activity (and call signs) but it is very pleasing to note that Garry 5ZFM has initiated some xtal activity on 1 mx. He runs 60w. to a QQE06/40 and his longest haul so far is Maitland where Brian 5ZBI has been regularly working back into Adelaide. Another regular contact is Garry 5ZFM working Ken 5ZCH located at Elizabeth.

Curl 5ZBL and Neil 5ZAW both have xtal gear for 288 Mc. also. Curl modulates an 832A tripler with quite good results and Neil does likewise with an E39B. Press one of those spare 6/40s into service, Neil! Other stations active were 5HR and 5ZFG. Bob 5ZFG runs a 6/40 modulated tripler.—5ZBZ.

PAPUA-NEW GUINEA

Roy 9AU has packed up in preparation for leave in Nov.; will be operating portable VK9 over the Xmas season. Peter 9ZAK is a new station now working on 50 Mc. but will also be on leave in Nov. 9HR has been worked around Port Moresby and is awaiting openings. Gerry 9GW has an f.b. rx and working on tx. Gordon 9ZGW, ex-1ZGW, has settled in for a term in the Territory with O.T.C. and is putting out a very fine signal with a 4 el. yagi and 25w. to 6146. Murray 9CK has been heard testing and will be there for sure when conditions are right.

Altogether it looks as though Papua will be well represented this coming season. 9KK is looking for VKs in the evenings from 1700K on and during week-ends—best times appear to be around 1700K-1930K and 0700K-0800K; look for auto. c.w. on 50.005 Mc.—9KK.

DX

(Continued from Page 20)

7BVY, VE3TO, VE0MK, ZB1HC, VK8TF. 21 Mc. c.w., G8ZA, G6ZO, 11ZJV, W/Ks. QSLs received: 9M2GD, OA4FN, 1T1AI, 4X4CJ, 4X4JN, 4X4CK, IS1DKL, ZD3HP, UC2AR, CM2QN, EA5AF

Rick 5ARX found conditions on the 20 mx band to be poor and noticed that many were migrating to 40. This band is not as good as it should be with QRM, commercials, poor phone and poor c.w. notes. Worked on 14 Mc. c.w ZL4JF, HB1UB/Liechtenstein, VE8DX, CR7CI, KM6BI, FR7ZD, FY7YI, KP4VB, KV4AA who is looking for a VK1. QSLs MP4BCU/AP, EA8CG. HK0AA, HH2OT, JT1AB, KG6ICD, KP4AOO, KC6JB, VK9HC Cocos, VP5VB, VU-2ANI, VS9OC.

5QM, 28 Mc. c.w. wrk.: ZS6AIA, ZS1PV, ZS5CU, ZE1JJ, ZE8JZ, ZE0HE, ZE4JO, K6DDX, W5ECU, WA6BDR, WA6FQL, K2UFM, K8ICS, JA6NP, JA7IL, JA3BA, JA1BYM, JA4CJ, FK-8AU, KH6AHN, VQ2CH. 21 Mc. c.w.: KG6ICD, ZL2RC, VK0WH, FK8AU.

George 5BX has now worked 251 countries with PX1PF Andorra who is on each afternoon after 0700z. 14 Mc. c.w. wrk.: SP8MJ, P11KMA, PA0TAU, YO3FD, OZ7GN, EI9Y, VP3YG, UJ-8KAA, YV4CI, SM7ACB, F3ML, F2NB, F9YW, F8BV, F3DA, Gs. QSLs received HH2LD, LZ-2KKZ, 3A2CZ, VQ8A1W, ZM7DA, UO5SA, VP3YG.

ADDRESSES

MP4BCV Brian Cook, R.A.F., P.O. Bahrain.
OR4TX—C/o. Yvonne Pearson, 53 Rue Tilmont, Brussels, Belgium.
VP9CX—Athol Moulder, Warwick, Bermuda.
VU2XG—Peter Windle, C/o. U.K. High Commissioner, Bank Building, Bombay
ZK1AR—T. A. Ferguson, Airport, Aitutaki, Cook Islands.

I wish to thank the "DX Magazine" and Don Chesser, W4KVX, for information used in the News and Notes section, also the West Gulf DX Club of Texas and those of VK who have helped with these notes. Until next month, 73, John.

S W L

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

Hi, gang, it's me again, your scribe. How's listening these days? Any reports on band conditions and what you have heard? If so, let me have details will you for inclusion in this page. Also would like a photo of yourself and rig, rx'ers, tuners (if any), and aerial systems, etc., with full description. Make sure it's a good photo, otherwise it won't reprint very well. Another thing I would like which would be of interest, and that is an editorial from you other State Secretaries, and maybe later I'll invite one from each members. So who'll be first? I want one before the 20th September.

Country boys, how about writing me a line or two for this page as you seem to be left out of things. Is there any way we can help in any matter? I'll let you into a secret—this Division may hold an S.w.l. Convention at Shepparton soon. What's your feelings about this, you country lads? Drop me a line, will you?

There are 90 listeners' numbers issued in VK3 land, 30 have gone to Amateur ranks, leaving 60; about 50% are country, where's the rest, eh? What about coming to the meetings, chaps, as you are all missing a lot of fun.

The office-bearers have some colossal ideas that will be brought about very shortly, so be in it with us, attend our monthly meetings on the last Friday of each month.

CORRESPONDENCE

I wish to acknowledge correspondence from L3042, L3074, L3088, L5031, L7003 and L4001. Not much is it, what about a few more letters for the page? Don't forget it is for you, to keep you abreast of the other fellows' activities.

Eric L3042, his score is now 269 heard with QSLs from 254, zones—what a man! This year he has heard 152-38 and has had QSLs from 503 86—33 to the end of June. What's he been doing I wonder, loafing? Hi! (Incidentally, he is Acting Federal QSL Manager, how about that for an s.w.l'er, long may he reign.)

This month's inward QSLs for him are OR4TX Antarctica, CO7NR, DM3SMD, DL9PF, G3BST, I1AMR, LX3PF, MP4BCV, VK5JT (rare DX that one, Eric), VK4IC Willis Island, VU2XG, ZK1AR, KM6BI, VK0AB, Wilkes, OZ8ML, PY-1GT, VP8CX, W0SDN Nth. Dakota, and ZE3JO. Well how about that chaps, what an s.w.l. he is, doesn't it make you envious? Enough from him for the present.

Don Grantley, L3088. The elusive W2AYN/EP came on the air again recently, operating c.w. on 20 metres with a T7 note, so s.w l'ers here's your chance, he sends fairly slowly and his rough note is very distinctive. QSL via the A.R.R.L. ZL4JF on Campbell Island appeared in the N.Z.A.R.T. Contest and gave Don a new country. To date ZL3VB is still elusive to him. ZL3VB is on 20 mx most Sunday afternoons.

W3ZA, who was recently on with W2AYN from EP, will shortly be on from HZ and 4W1, 9N1GW. QSLs are now handled by Ace Radio Club, C/o. Cook Electric, Box 9136, Washington, D.C. UQ2ZN, K6CQV/KS6 and HS1B should be on s.s.b. now.

L3055 (that's me by the way). I haven't been hearing terribly much of late. VR1D has been knocking off the c.w. boys, but there's a lot who won't wait their turn. VE7ZM on s.s.b. helps him a lot, he's generally on 20 mx in the DX portion of the band on Sunday afternoons. On the 27th July, I listed 17 W stations and one VE in a matter of 39 minutes, there were W1, 2, 3, 4, 5, 7, 8, 9, 0, but no W6s. 10 mx has been very quiet, L3074 agrees with me, too. 15 mx has been quiet, VS5GZ was there one Sunday afternoon with a VK4 talking about Siamese Cats.

Now I'll just run through the bands and tell you what each one of us have heard 80 mx: L3055 reports quite a few ZLs and VKs around 1800 to 2000 hours (all times E.A.S.T.). L3042, he heard the new country ZL4JF (Campbell Island) at around 1900. 40 mx as far as I am concerned, nil on phone, but L3042 has heard these on c.w.: DM3, VR2, VB5, SP6, SM5, Gs, UA2 and W6QOR/MM off the W6 Coast.

L3074 on 40 c.w.: W2EIZ, ZL3 and 2. 20 mx: plenty of it around, look at these L3042 heard on c.w.: Fs, HB, DJ, DM, Gs, UA0s, ONs, UNs, CO2, UL7, LA7, SPs, I1s, DLs, OKs, CXs, and PY, and also VK9RH (phone); cut that out Eric, no phone for you OM. But the best he's heard is W2AYN/EP and ZC5SAE.

L3074. Gs and HC c.w., and HB and 6S on phone. L3055 Ws, G, YV, XE and VEs on phone; 15 mx not bad, but will improve soon. L3055: Ws ZLs, VS5s, YV. L3074: KN4WIP on c.w. 10 mx sometimes of a midday and late afternoon. L3074 has heard 4S7GB, ZS5CU and ZS6AIA (phone). I myself, did hear VK6QL work a G, and a Russian station, but he's using a rhombic, what hope have I?

This is all the QSL, DX and band notes I have for this month, so let's hear from you with some more, the bands should start to come good again very shortly.

NEW SOUTH WALES

As from 1st August this year, the VK2 S.w.l. Group will accept members from the VK4 Call Area. They should contact the Secretary, Gerry Albeck, of 175 Union St., Erskinville, N.S.W. Thirteen members attended the previous meeting of the Group. Frank 2QL had to cancel his visit due to his XYL's hospitalisation.

Anybody who has news for the VK2 S.w.l. Group, please forward it along to Don Grantley. General queries and information on commercial DX can be obtained from Gerry, while Don Grantley will answer all letters sent to Box 145, Albury, which deal with Amateur and associated problems.

Response to recent Divisional contests have been poor and also the July Oceania Continental area. I am most amazed at the number of logs received. It's beyond me and the other State Secretaries. Do you know that Eric Trebilcock, BERS195, went to all the trouble to work out the Oceania Contest, but I have received only six logs to date, still these contests will continue, as I'll get you all interested yet.

What do you, the listener, expect from the Groups? What type of feature do you want? Where have we gone wrong? I will only be too pleased to have your comments and suggestions or send them along to your Divisional Secretary.

Listeners from the city area are doing a great service for the Division. Tasks such as log keeping, bulletin folding, assisting at working bees on the Dural and Aitcheson St. station properties. One of the senior members, Burney Smythe, is amongst the members assisting the disposals committee.

I would like to mention here to all Group Secretaries that news and notes for this page must reach me no later than the 20th of each month, otherwise it will be held over for the next issue.

SOUTH AUSTRALIA

From L5031, Colin Hutchesson. Gee, this lad is keen, he is getting some poles soon to put up the W3 all-band Windom. Colin entered the N.Z.A.R.T. Contest, but he didn't score many as band conditions were very poor. Dale L5026 is having trouble with 9-tube rx'er, it's for double conversion. David L5027 is constructing a rx and at the present has it about half wired. Colin L5031's receiver is progressing very well (it's a 7-tube). Also Peter L5029 can't get the aerial coil to line up on his rx.

At their last meeting, Col Ferguson, VK5CJ, gave them a very interesting talk on fault finding in rx'ers. There were nine present. Thanks Col. for your very interesting lecture.

TASMANIA

The Secretary is growling just like I said previously, regarding lack of interest in contests. I won't say any more about it for now.

The Group received a bad blow at the July meeting. Pat Geeves, the President, tendered his resignation due to his inability to attend regularly—he's a shift worker now. Pat, as you all know, "launched" the S.w.l. Group in VK7 land (I hope the ship grows in crew members, Pat). He was an inspiration to them all with his cheery manner and willingness to assist his fellow members. So on behalf of the Group, thanks Pat for a job well done. Hope to see you along at the meetings when you can make it, Pat.

The new President is that character, Ted Beard, he resigned as Secretary and that post (important) has been filled by M. Jenner, of 20 Church St., New Norfolk. So my lads in VK7, help him all you can, so he can help you build up your Group down there.

At the July meeting, Ted took along an incompiete (why don't you finish it, Ted?), but rather interesting looking 28 Mc. rig, just to illustrate how small the rx is; who knows, VK7 may have some v.h.f. listeners soon (he's kidding, of course!). Ted would just like to mention before finishing up as Secretary, that he would like to thank all those who assisted him during his term of office, especially Maurice Cox, who has been a really grand backstop. Well thanks, Ted, I was only too pleased to help and will continue to do so whenever you want it.

WESTERN AUSTRALIA

The s.w.l. there have been accepted as associate members of the VK6 Division of the W.I.A. and they have already received their Membership Certificates. They have appointed a committee of three, comprising F. Hardwick, L6001, his XYL, L6002, and Harry Price, L6003. They were given the job of re-organising the S.w.l. Group there.

The old Radio Society of W.A. has more or less folded up and is being taken over by the W.I.A. and they expect to get a few more members for the Group. Eric says it's rather a forlorn hope, because he and his XYL have been active members of the Radio Society for the last three years and although they boast a membership of just over 100, he doubts very much whether more than six or eight of them will become associate members of the W.I.A.

I just hope that the 100 do become members of the VK6 S.w.l. Group, and we over here wish them all the very best for the future.

INWARD MAIL BAG AT L3088

First we have a letter from Bill Davis, of VK4. As you may know, he has been in hospital for a long stretch, however he has now been discharged and has commenced work again more or less 100 per cent. fit. However, our friend shall most likely be lost to the ranks of the s.w.l's. as he anticipates doing the A.O.C.P. course.

Another letter from Andy Rugg, one of the younger VE s.w.l. and an I.S.W.L. member. He is one of the younger listeners, but despite his tender years, he is well up in the overseas QSL ladders. Rx is an AR88 plus a small 3-tuber for emergency use; these two have enabled him to hear all 40 zones, a c.w. operator by preference, although he does some phone work when tired of morse. Actually, there are not a large number of s.w.l's. in Canada, a country which, according to Andy, is really fine for this phase of our hobby.

It would seem that one trouble which plagues all s.w.l's., and many Amateurs, is the reluctance of many Amateurs to QSL. We all have our own opinions on this matter, but there can be no excuse for the VKs who have not replied to Andy, as it seems that he includes an I.R.C. with all his reports.

VK-ZL CONTEST

Time is ripe to blow the cobwebs out of the gear and get ready to cover this, our annual DX Contest. Under control of N.Z.A.R.T. this year, we are assured of another two week-ends of hard contest work and it's hoped to see some rattling high scores and plenty of entries. Who will top last year's score of some 6,000? (Rules appear elsewhere in this issue.—Ed.)

DX LADDER

		Heard	Confirm.	Zones
L3042	Eric Trebilcock ..	269	254	40
L3022	Don Grantley	200	57	28
L3055	M. Cox	160	28	18
	Rod de Balfour	156	106	36
L3074	Mac Hilliard	156	52	—
L3065	Ian Thomas	121	16	13
L3072	Tom Haywood	72	9	—
L3015	Mike. Ide	66	26	—
L5031	C. Hutcheson	30	2	2
L2185	A. Chatto	79	—	—
L3150	B. Coombe	73	2	2
L3088	D. Grantley	51	4	20
L3020	F. Aslin	40	2	2
L3052	T. Mills	14	2	2
L2011	G. Albeck	11	—	—
L2155	P. Irvine	8	—	—
L3006	Ian Woodman	4	1	1
L2057	R. Wood	3	3	3

This is more like it, any more available scores? Send them in. So long s.w.l's. till next month. 73, good DX.

★

CARTOONS

Through the past issues of "A.R." have appeared cartoons by VK3ZEW, and each cartoon has had a repetitive feature shown. How many readers can point out the "trade mark" of each cartoon, which we hope will continue to be a feature of "A.R." If requested, "A.R." could publish one page of cartoons showing what were considered to be the best ones which have appeared in various electronic magazines. What about writing to "A.R." stating your views?

NOTES

FEDERAL

Fed. President: G. M. Hull, VK3ZS.
Fed. Assist. Secretary: W. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne, C.1, Vic.
Federal Councillors:
New South Wales—Dave Duff, VK2EO.
Victoria: Alan Elliott, VK3AEL.
Queensland—Bert Hinkler, VK4AO.
South Australia—L. H. Duncan, VK5AX.
Western Australia: Ron Hugo, VK6KW.
Tasmania—E. J. Cruise, VK7EJ
Papua-New Guinea—Russ Coleston, VK9XK.
Fed. Contest Committee: Lon Jensen, VK7LJ, Chairman, Box 851J, G.P.O., Hobart, Tas.
QSL Bureau: R. E. Jones, VK3RJ, 33 Landale Street, Box Hill, E.11, Vic.
Awards Manager: Alf Kissick, VK3KB, 1 MacFarland Street, Brunswick, N.10, Vic.

NEW SOUTH WALES

President: W. J. Lewis, VK2YB.
Secretary: Norm Beard, VK2ALJ. Address mail to Rooms at 14 Atchison St., Crows Nest, N.S.W.
Meeting Night: Fourth Friday of each month at Science House, Gloucester Street, Sydney.
Divisional Sub-Editor: Max Pfeffer, VK2MP, Lot 32, Braddon St., Blacktown.
QSL Bureau: 14 Atchison St., Crows Nest. Frank Hine, VK2QL, Manager; assisted by Allan Smith, VK2AIR.
Zone Correspondents: North Coast and Tablelands: Noel Hanson, VK2AHH, Ryan Ave., West Kempsey. Hunter Branch: R. W. Rose, VK2AQR, 17 Brooks St., West Wallsend; Coalfields and Lakes: H. Hawkins, VK2YL, 2 Comfort Av., Cessnock. Western: W. Stitt, VK2WH, "Cambijowa," Forbes; South Coast & Southern: E. Fisher, VK2DY, 2 Oxlade St., Warrawong; Sth. Western: J. W. S. Edge, VK2AJO, Wallace St., Coolamon.

VICTORIA

President: D. A. Wardlaw, VK3ADW.
Secretary: M. J. Owen, VK3ZEO.
Administrative Secretary: Miss Foster, 478 Victoria Parade, East Melbourne, C.2. Postal address: P.O. Box 36, East Melbourne, C.2.
Meeting Night: First Wednesday of each month at the Radio School, Royal Melbourne Technical College.
Divisional Sub-Editor: P. D. Williams, VK3IZ.
QSL Bureau: Inwards and Outwards—W.I.A., Vic. Div., P.O. Box 36, East Melbourne, C.2.
Zone Correspondents: Western: W. J. Kinsella, VK3AKW, Magdala, Lubeck; South Western: D. G. Baulch, VK3AKN, "Tooronga," Broadwater, via Port Fairy. Far North Western: M. Folle, VK3GZ, 101 Lemon Ave., Mildura; Midlands: R. Jonasson, VK3ND, Farnsworth St., Castlemaine; North Eastern: T. K. Tennant, Park St., Tatura; Eastern: J. F. Ryan, VK3ZBR, and F. D. Voight, VK3ZGV.

QUEENSLAND

President: W. J. Rafter, VK4PR.
Secretary: S. J. Armstrong, VK4SA, Box 638J, G.P.O., Brisbane.
Meeting Night: Fourth Friday in each month at the State Service Union Rooms, Elizabeth Street, Brisbane.
Divisional Sub-Editor: W. J. Rafter, VK4PR, Willandra St., Alderley, Brisbane.
QSL Bureau: Jack Files, VK4JF, Vanda St., Buranda.
Zone Correspondents: Maryborough: R. J. Glassop, VK4BG, 80 North St., Maryborough. Townsville: R. K. Wilson, VK4RW, Hogan St., Stuart, Townsville.

SOUTH AUSTRALIA

President: L. F. Brice, VK5OK.
Secretary: J. C. Haseldine, VK5JC, Box 1234K, G.P.O., Adelaide. Telephone: M. 7851.
Meeting Night: Second Tuesday of each month at St. Paul's Church Meeting Room, Cr. Flinders and Pulteney Streets.
Divisional Sub-Editor: W. W. Parsons, VK5PS, 19 Victoria Ave., Rose Park, S.A.
QSL Bureau: G. Luxton, VK5RX, 27 Belair Rd., West Mitcham, S.A. (Inwards & Outwards).

WESTERN AUSTRALIA

President: Cole Sangster, VK6CS.
Secretary: L. S. Eddington, VK6LS, Box N1009, G.P.O. Perth, W.A.
Meeting Night: Third Tuesday of month at Mends Street Hall, South Perth.
Divisional Sub-Editor: P. Haywood, VK6PH, 2 Barnsley St., Queen's Park, W.A.
QSL Bureau: Jim Rumble, VK6RU, Box F319, G.P.O., Perth, W.A. (Inwards and Outwards).

TASMANIA

President: T. Allen, VK7AL.
Secretary: K. E. Millin, VK7KA, Box 681J, G.P.O., Hobart.
Meeting Night: First Wednesday of each month at W.I.A. Clubroom, 147 Liverpool St., Hobart.
Divisional Sub-Editor: I. Nichols, VK7ZZ, 9 Cressy St., New Town.
QSL Bureau: J. Batchler, VK7JB, 39 Willowdene Ave., Lower Sandy Bay, Hobart.
Zone Correspondent: North Western Zone—Terry Tongs, VK7TT. Northern Zone—Ray Walden.

FEDERAL

P.M.G. AD HOC COMMITTEE SITTING

The initial meeting of the Ad Hoc Committee formed by Postmaster-General, C. W. Davidson, O.B.E., was held in Melbourne on Wednesday, 10th August.

The Australian Government decided to establish this special committee to review the radio frequency allocations after considering the report of the Australian Delegation to the Administrative Radio Conference, Geneva, 1959.

The membership of the committee is as follows:—

Professor L. G. H. Huxley, Chairman of the Radio Research Board of Australia, and recently appointed Vice-Chancellor of the Australian National University.
Mr. E. B. Mair, a member of the Australian Broadcasting Control Board.
Mr. A. Tinkler, of Burwood, Victoria, licensee of Amateur Station VK3ZV, representing the Australian Amateur Service (nominated by the Wireless Institute of Australia).
Mr. W. W. Hennar, Chief of the Research Laboratory, Amalgamated Wireless (A/sia) Ltd., Sydney, representing the Radio Manufacturing Industry (nominated by the Electronics and Allied Industries Division of the Chamber of Manufactures [N.S.W.]).
Mr. J. H. Williams, Royal Melbourne Technical College and **Mr. D. G. Wyles,** of Mosman, N.S.W., representing the interests of public utilities and commercial organisations operating licensed Radio Services (nominated by the Institute of Radio Engineers [Aust.]).
Mr. H. White, Acting Director, Airways Engineering, of the Department of Civil Aviation.
Group Captain J. W. Reddrop, O.B.E., Chairman of the Joint Communications Committee (Department of Defence).
Mr. E. J. Stewart, Supervising Engineer (Systems Planning), Engineering Division, Post Office Headquarters, Melbourne, and leader of the Australian Delegation to the Administrative Radio Conference in Geneva, 1959.
Mr H. W. Hyett, Supervising Engineer (Radio), Engineering Division, Post Office Headquarters, Melbourne.

Broadly, the terms of reference of the committee call for a review, in the light of present usage of frequencies in the Commonwealth, of the application of the proposed table of frequency allocations which emerged from the Administrative Radio Conference held at Geneva in 1959.

The committee will examine particularly any matters relating to radio frequencies that may arise from reports to the Postmaster-General by the Australian Broadcasting Control Board regarding Broadcast and Television Services. It will study the manner in which any further distribution of available radio frequencies may be made in the overall national interest. The committee will report to the Government at the conclusion of its investigations.

The services of Mr. Arthur Tinkler, VK3ZV, as representative from the Wireless Institute of Australia, have generously been made available by the principals of his Company, R. H. Cunningham Pty. Ltd., for the protracted periods over which the committee will be carrying out its investigations.

1,700,000 TRANSMITTERS

Radio transmitters in the United States of America, according to a year-end report by the Federal Communications Commission, in categories other than broadcasting, now outnumber broadcast transmitters in use by 18 to 1.

In marking its 25th year of operation, F.C.C. points out the increasing complexity of non broadcast services dealing with protection of life and property as well as those used for business and personal communications.

Latest count of users showed a total of over 570,000 licensees, using more than 1,700,000 transmitters, plus almost 2 million authorizations for operators.

In addition to broadcast facilities, there are now more than 50 categories of radio services.

—"CQ," June 1960.

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FEDERAL QSL BUREAU

The Federal QSL Bureau Manager is holding cards for the following VK0 calls (all for 1960 contacts): AM, AN, JB, KJ, LR, RL, SM. Any reader who can help these cards leave the Bureau, is asked to contact the undersigned with details.

As from May 1, 1960, new rules were introduced for the "Award Hunters Club" certificate which is available to an applicant who can satisfy the "A.H.C." committee (located in Finland) that he/she already holds 25 different Amateur Radio Certificates. Further details on application to undersigned.

During the next six months, while Ray VK-3RJ and XYL are overseas, this "stand-in" will do his best to give all concerned an equivalent, efficient "inwards" QSL service as that so long given by Ray.

—Eric Trebilcock (BERS195), Acting Manager.

SILENT KEY

It is with deep regret that we record the passing of:—

Alf Males, VK7 Associate.

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FEDERAL AWARDS

W.I.A. OFFICIAL LIST OF COUNTRIES FOR DXCC PURPOSES

The following further additions and amendments are announced to the list of countries published in "A.R.," January '60.

New Countries—Add to List

Auckland and Campbell Is. (ZL4)—approx. 600 miles south of N.Z.

Marcus Island (KG6)—approx. 1,500 miles south-east of Japan.

Mali Federation—formerly part of Fr. West Africa known as Senegal and Fr. Sudan; for contacts 20/6/60 or later.

Mauritania—formerly part of Fr. West Africa; for contacts 20/6/60 or later.

Ruanda-Urundi Trust Territory (9U6)—formerly grouped with Belgian Congo; for contacts 1/7/60 or later.

Somalia Republic (6O1, 6O3)—note letter "O" in prefix—formerly Italian and British Somaliland; for contacts 1/7/60 or later.

Delete from List

British and Italian Somaliland (VQ6 and 15) as of 30/6/60.

Karelo-Finnish Republic (UN1) as of 30/6/60, thereafter such contacts will be considered the same as those in the rest of the European Russian S.F.S.R.

Tangier (CN2) as of 30/6/60, thereafter such contacts will count as Morocco (CN8, CN9,.

Wrangel Island (UA0), as of 1/8/60.

Re-Insert in List—Previously Omitted

EP, EQ—Iran.

PK1, 2, 3—Java; PK4—Sumatra, PK5—Borneo, PK6—Celebes and Molucca Islands.

CE9, KC4, LU-Z, VK0—add to prefixes shown for Antarctica.

VP5—Cayman Islands.

Cambodia.

Alterations to List

FB8—Madagascar now known as Malagasy.

OQ5—Belgian Congo, now 9Q5 known as Congo Rep.

7G1—Conakry, shown as Rep. of Guinea.

UR8—Turkoman should read UH8.

ZC3—Christmas Is., now VK9.

—A. Kissick, VK3KB, Awards Manager.

NEW SOUTH WALES

HUNTER BRANCH

Divisional President, Bill 2YB, was a welcome visitor to the July monthly meeting when he journeyed forth from the City of Sydney with our lecturer for the evening, Harold 2AAH. Harold soon showed that he knew more about transistors than most of us and gave us an interesting excursion into the subject which held the interest of all. Samples were passed around for perusal but I am sure that Zulu Lulu did not agree with Harold when he stated that the life of a transistor has yet to be determined.

Harold was thanked by Stuart 2ZDF, who was supported by V.P., Varley 2SF. This was passed by acclamation by the following: VKs 2CS, 2ZL, 2ZMO, 2AKX, 2QB, 2XT, 2FP, 2SF, 2ZDF, 2RJ, 2AYL, 2YB, 2AEE, 2AQR and associates Sutherland, Davis, Finlayson, McLachlan, Gray and Stobbs. Divisional President Bill then addressed the meeting on matter of Council.

Nice to see that Fred 2AEE was able to attend and sorry to hear that Bill 2ZMW was in hospital. Trust you are well on the way to recovery ere this William. After the meeting the final disposal of gear of the late Sid Smith took place.

During th month the broadcasts from 2AWX were in the hands of 2AYL, 2RJ and 2AQR, of course the President also had his say, but conditions have been almost impossible. I hear that Stan and Stewart, 2AYL-2ZDF, are available for any type of demolition work after their apprenticeships down 14 Atchison St. way.

At the social meeting in Bill Hall's tavern, which is always on the fourth Wednesday of the month, the programme for the Annual Dinner and Blackalls Field Day were worked out and promised to be a bumper meet. The details appear elsewhere in this issue. Excellent prizes are to hand with more to come. The lady's lucky number will give her an Astor transistorised personal portable and for others there will be a mint condition 3BZ, two GB10 t.v. antennae, car aerial, parcel of component parts from a Sydney radio firm, an Astor mantel set valued at £20 or component parts to that value, a PT34 multimeter, etc. For those who take part in the Hidden Tx Hunts, there will be a map available and the Tx will be placed in an accessible place and not on private property. So you will not dent or bog the car, nor face a trespassing summons.

At the Dinner the night before Blackalls, Max Hull, of F.E. fame, will be the speaker as well as other notables including our old friend, Allan 2KB. Can you afford not to be present at both functions? As an added attraction, I'll be there. The Dinner will cost you £1 and the Field Day 10/-, however if you attend both, the outlay is only 25/-. Book early with the Secretary, Gordon Sutherland, 15 Marine View, Newcastle, or tell any Bovocastrian on the air.

The September general meeting will be at the University, Tighs Hill, as usual, on the 9th when we will be favoured with a talk by Alan 2KB, and his subject will be on a trip to the East. All and sundry are invited, especially sundry which include YLs, XYLs, etc. Doubt if there will be any supper, but you can sit next to 2ZL as he always brings a thermoe of tea and dog biscuits.

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"The P.M.G. must be making the examination easier."

VICTORIA

VIEW POINT

Some members feel that it would be a good idea for the call-back at the end of the broadcast to be streamlined—something like the VK7 call-back after their broadcast, immediately before ours. We used to call up Zones in order some years ago, but as activity waned it was decided to change the form of the call-back to that as it is now. However, consider this view.

If each Zone has a hook-up each week, and it should, we feel, then, an official Zone station could be appointed to act as liaison with the W.I.A., to listen to the broadcasts, report to the zone each week, and to report back to the W.I.A. each week and keep us informed about what is going on in the Zones and what you in the Zone feel about matters raised on the broadcast and reported in "A.R." The Zone hook-ups could be used to discuss Institute matters, and may help to keep the VK3 Division strong and united. We used to do this sort of thing; would it be a good idea to reintroduce this form of call-back? It would only work if the hook-ups during the week were well attended and if matters were discussed and news and views passed on. If Zones are defunct, if Zones are apathetic, surely this is a reflection on us all. Let's resurrect defunct Zones, and let's get on our Zone hook-ups each week. Also let's all be active and united behind the W.I.A. The W.I.A. is organised in Zones, has this organisation broken down?

Anyway, think about this idea, discuss it next week on your hook-up and let us know your views. Incidentally, the Kinnear Trophy is awarded annually to the most active Zone —has your Zone won it lately?

Please, all of you remember, that a small band of willing workers is keeping the Institute going. We in VK3 are at somewhat of a disadvantage in that "A.R." is prepared and published here, the Federal Executive is located here, Federal QSL and Federal Awards Managers are here, and these activities are a drain on the available manpower. Give your support to the VK3 Divisional Council, and some of you young fellows, please give us a bit of your time to help.

To conclude view point might I also mention another factor raised by 3AKJ. It concerns our attitude to Amateur Radio generally and could influence our relations with the frequency allocation authorities.

The complete radio operator is a dying race. By that I mean one who can design, build, operate and service equipment. Assuming this premise to be correct, we can consider ourselves fortunate, in these days of specialisation to be capable of doing all these things reasonably well; perhaps not by specialist standards, but sufficiently well to impress a great many hiring institutions. How many chaps owe their positions in the business-technical world to the fact that they are Radio Amateurs, experimentalists, operators?

This very fact may give us the club to wield at frequency determining authorities in the future. It is not only the fact that we can offer communication facilities in times of disaster, but the very important fact that we are **complete operators**, with a balanced all-round training invaluable in the national interest. Comment?

SOUTH WESTERN ZONE

The Zone will be making a special effort during the Jamboree-on-the-Air in October next. John 3AGD is handling inquiries from country areas and Lin 3ARL from the metropolitan districts. If you would like to take part and don't know of any Scout Groups in your area, please contact John or Lin and ask if you have made contact with a Group, they would like to know your call, what bands you intend to operate and what Group or Groups you will have visiting the shack. John and Lin will be on 80 mx each Monday and most Thursdays about 2000 hrs. This is not a DX hunting show chaps. If you work overseas, well and good, if you only work local bands, then the boys will get just as big a thrill from working the bloke over the road. So give it a go and show these youngsters some thing of our hobby. We hope to have more for you in next month's notes about this.

The next Zone Convention will be in Geelong but as yet the date has not been chosen.

The N.Z.A.R.T. Memorial Day Contest brought some rare ones out on 80 mx. ZL4JF was a new country for those who worked him in the contest. Jack 3JA and Don 3AKN hooked him, the latter finished with 49 contacts and a headache! The new T/R switch took a beating that week-end but came up smiling. Bill 3XE has installed the same switch in his tx together with a cunning system of switching to stop the chirp on the osc, and keep the break-in working. (How about an article on this subject OM.—Ed.) We may have a new signal soon. Lindsay Moffat sat for the A.O.L.C.P. last exam. and we wish him every success.

Luke 5LL paid a flying visit to the Hamilton district but the weather soon drove him back to VK5 where the mud is not so deep it seems. Another visitor was Viv. 3ABX, who is now resident in the Zone and may yet be persuaded to tune the rig again.

D.s.b. and s.s.b. are getting a little more attention in the Zone. Neil 3HG has a new rx with a vast array of push buttons, pull buttons, etc., which seem to be necessary to translate this form of transmission into accent-free English. Danny 3ADD also. This one is a little better than the late one which, like all Danny's previous rx's, is ten times better than any one of ours. So he says, anyway. He has a s.s.b. tx under construction, too. S.s.b. too for Tim 3TW. Tim has left the DX bands for a while and has been playing with d.s.b. The product detector in the H.R.O. has cheered him up immensely. Those things apparently work! 3AKN has been dabbling with d.s.b. but at time of writing is mobile in VK2 and making farther north. Thorb 3APS is still selling this

s.s.b. idea and John 3AMC is the latest one to show interest. Thorb has news of Ian 3BV who is beyond the a.c. lines, but has an alternator en route for his new QTH.

There are quite a number of us in the Hamilton area now and it has been suggested several times that we get together some evening. How about some time in September chaps? Jamie 3MC and Pat 3ADN were putting a nice signal into VK2 on to my whip the other night. Pat has a new tx on the air.

The W.I.C.E.N practices are now under way under the eye of Jim 3ABT These practices are scheduled for the second Thursday and fourth Sunday of each month at 2000K hrs. on or about 3500 Kc. All welcome who are able to take part whether or not members of the Institute. Jim is hatching a new tx to end all tx's. Brian 3XN has now abolished the grass supports for his antenna in favour of tall timber. The signal was f.b. in the middle of Katoomba on the whip but alas, it seemed to be one way traffic. Well now there seems to be very little from the DX bands or from the v.h.f. either, so please, you who frequent those fearsome places, come up to a civilised one sometime and give the gen. Cheerio chaps, don't forget to give John or Lin the dope if you would be in the Jamboree-on-the-Air, give it soon so the Scout Magazine can publish it.—3AKN

EASTERN ZONE

Firstly, I must apologise for the absence of notes from the last issue Your Correspondents, 3ZBR and 3ZGV, were actively engaged in Morse practice in our spare evenings and were unable to put in the necessary time to compile notes. However, the main text would have been on the 15th Annual W.I.A. Convention which was held at Traralgon. This, fortunately, was adequately covered in the last issue.

On 22nd July we held a zone meeting in the 3ASS shack. In attendence were 3AIT, 3ZAT, 3ZDP, 3ZCR, 3DY, 3AHK and John, sw.l. from Maffra.

At the Convention it was suggested that our zone hook-up on 3650 Kc. be attempted once more. Our first and second trials included the following stations. 3AIT, 3QK, 3AWV, 3ANL and 3ASS. This hook-up has really stirred our h.f. boys into life, meanwhile the v.h.f. boys are just as active as ever. See v.h.f. notes this issue.

Bert 3BB has been operating Morwell High School station 3ANL. It is interesting to see how Amateur Radio is aiding secondary education Cliff 3AIT was our only contestant in the recent ZL Contest. He logged a very good score considering the local conditions at the time. In conclusion, our Morse Code practice was worth while 3ZGV is now 3AEC, and John 3ZBR has been advised of a pass, as yet no call sign allotted.

WESTERN SUBURBS

Some of our members have been busy working on their rigs for the R.D. Contest, and it is hoped that we were well represented this year. Bert 3EF of Warracknabeal has completed his new rig consisting of a Geloso driving 807s. Bert has recently been rock-bound, so the v.f.o. will help quite a lot. Gordon 3GW of Rainbow is busy on a converter for his rx and he hoped to work nonstop through the Contest; guess you "hit the hay" nice and early Sunday evening Gordon. Chas. VR1B, in the Gilbert Islands, often contacts the local boys on the DX bands. Chas. and Audery are enjoying their stay up there but are looking forward to their long leave which will be due early next year. We will be all pleased to see you again Chas.

MOORABBIN AND DISTRICT RADIO CLUB

All members of our Club are grieved at the news of the untimely passing of one of our most popular members. I am referring to the death of Morrie 3AMA, whom some of you may not know was responsible in the early days of the Flying Doctor Service for teaching the outback settlers the art of operating pedal wireless sets. He died during the week-end of July 23 after a long illness, and our sympathy goes out to his loved ones in their sorrow.

Following on the information imparted last month regarding our course of instruction which commences on Wednesday evening, September 7, at 8 p.m., an amendment has been made, namely, both the theory and the practical will be conducted on the one night, i.e. Wednesday of each week. 3LC's telephone number was wrongly given. It is BY 3918.

By the time that these notes come into print our second Crazy Whist night will have been held and if it was as good as the first one, I am sure there will be more.

Our Barbeque will be held at our Club location, 17 College Grove, Black Rock, on Friday evening 2nd September. Any visitors would be very welcome.

And now a further plug for our course. If any reader who has not succeeded in obtaining the theory of his A.O.C.P. wishes to avail himself of our offer of tuition, will he write me, 3LC at 1013 High St., Armadale, S.E.3.

GEELONG AMATEUR RADIO CLUB

Most club members now have a very good idea of the advantages of s.s.b., having had the opportunity of visiting John 3AJT in Newtown on two occasions recently. John showed how easy it is to work DX if you go about it in the right manner The equipment used consists of a Collins 32V 3 tx with a B. & W. 51SB-B s.s.b. generator alongside. The rx is a Collins 75A-3 with a home-brew product detector added for better s.s.b. reception. The aerial system, which helps John put such a mighty signal overseas, consists of a three-band Telrex beam 65 ft. high, complete with prop-pitch motor and selsyn indicator.

S.s.b. stations worked in a very short time last Wednesday night included ZL1ATQ, K5QFW, W5LMA, W0NIA and finally W4RPO. Everyone present was most appreciative of the way John replied to all manner of questions, handed around circuits for inspection and allowed us to inspect, where possible, the inside of the gear. The latest acquisition to the shack—a Hallicrafters SX96 also created considerable interest.

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QUEENSLAND

BRISBANE AND DISTRICT

The July general meeting was quite a show—we had a visit from two of the original Council of the Queensland Division of the W.I.A. They were Leo Feenaghty, ex-VK4LJ, and Bill Wishart, ex-VK4WT. Leo was the original Secretary of the Division and was also the Editor and printer of the first Amateur magazine which had an Australian-wide circulation. This magazine, "QTC," was widely circulated in Australia and was even subscribed to by Hams in over twenty countries throughout the world. The crest which appears on our Divisional Bulletin is a copy of the one which graced the cover of the original "QTC".

Leo gave a very interesting lecture to a large audience and it was put on tape for broadcast over the Sunday morning broadcast and for the historical records of the W.I.A. which is held by Federal Executive.

It was really interesting to hear about the beginning of our Division from one who was the first Secretary; Leo held this position of Secretary for quite a few years and Bill later became Divisional President. They subsequently swapped jobs, Leo becoming President and Bill Secretary. When they were asked if there was any chance of becoming active again, Leo said he had most of his time taken up in "personally autographing" the thousands of registration stickers for the automobiles of Queensland (personally, I think he was joking; I'll bet he has a rubber stamp of his signature for doing the job). Anyhow, the job of Main Roads Commissioner must keep him busy On the other hand, there may be a possibility of hearing Bill on the bands again because there was a nostalgic look in his eyes as he listened to the proceedings.

I suppose you have heard that Stan 4SA, our Secretary, and his XYL, Jess, are going on a tour of the north by car and will be seeing quite a few of the northern boys. He has a brand new Holden station wagon complete with a 7 Mc. mobile rig and if you see a good looking couple at your front gate, you will know who it is.

Well, the belated Palm Beach Convention was held over the last week-end of July and was a great success. There was a wonderful attendance and everyone had a good time. Isn't the Queensland winter weather silly? Where we normally have westerly winds and chilly weather around July, it was a beautiful week-end with temperatures in the high seventies and no winds. A lot of the boys think a short week-end is a better idea for a Convention and we would like opinions.

Did any of you blokes with "one-eyed monsters" see the Channel 2 A.B.C Newsreel recently with the scenes of 2JE, Joe Reed's shack? It was wonderfully presented and should give the general public a better idea of the mysteries of Ham Radio.

SOUTHPORT AMATEUR RADIO CLUB

On Wednesday night, 27th July, the annual general meeting of the Southport Amateur Radio Club took place in the clubrooms, at 8 Bellview Parade, Heydon Heights, Southport. The election of office-bearers took place and are as follows: President, Bob Kyle; Vice-President, Roy Ruck, Hon. Secretary, Ray Rumble; Hon. Treasurer, Rhys Yarrow; Class Master, Bill Sebley; Librarian, Reg Carter.

The main subjects under discussion were the proposed Amateur Radio Display at the Gold Coast Spring Festival to be held on the Gold Coast during October, and arrangements for the Club's effort in the 1960 Remembrance Day Contest.

The Club has been in action now for 18 months and at the moment has two licensed operators and nearly a dozen members taking the A.O.C.P. course and a transmitter is in construction at the moment. The Club has a 55 ft. aerial, centre fed with co-ax cable and a BC348 receiver.

Members of the Southport Amateur Radio Club at the 1960 Queensland Amateur Radio Convention, held during 30th and 31st July at Palm Beach on the Gold Coast. Listening to home-made 144 Mc. talkie is from left, Neil Thomas, Bob Kyle, Bert Bowen (with walkie talkie), Bill Sebley (VK4WS) and Reg Carter. The 144 Mc. talkie was made by Bert Bowen.

TOWNSVILLE

Apropos of my notes in August "A.R.," re Arthur 4FE claiming first contact with VK8 post-war, this should have been the first VK to work VK8 as I am advised by VK8NE he made first DX contact with MP4BCV at 0001 local time on 1/8/60 and he heard no other locals on

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK6RU	3	247	VK6KW	4	199
VK6MK	43	241	VK4HR	12	198
VK5AB	45	233	VK3BZ	3	176
VK4JF	21	219	VK4RW	23	164
VK3WL	14	211	VK3EE	10	163
VK3ATN	36	204	VK9DB	31	161

C.W.

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK3KB	10	279	VK4HR	8	218
VK3CX	26	266	VK3XU	46	213
VK4JF	29	263	VK6RU	10	209
VK3FH	15	236	VK3YL	30	203
VK3NC	19	228	VK2EO	2	191
VK3BZ	6	222	VK5RX	23	185
		New Members:			
VK3ARX	86	104	VK5BS	87	104

OPEN

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK3ACX	6	262	VK3NC	77	229
VK4JF	32	265	VK3HG	3	225
VK6RU	6	262	VK3WL	45	225
VK6MK	74	245	VK3XU	61	221
VK4HR	7	233	VK6KW	13	214
VK3BZ	4	231	VK3JE	13	210

at this time. It was a surprise to read in June "CQ" that Willis Island (VK4) has rigid security regulations and that none of the staff there has Amateur status and will not be relieved until 1962; always thought it was a yearly change. Looks like we will all have to wait to work that island as a new country. Conditions on the bands seem to be going fast as at night there is very little heard in the way of DX or local ragchews.

One of the older Hams, feeling browned off, was trying to put his parasitic array on the dot. He zeroed in on another local who was getting his own array also checked with a distant station and asked for a comparison report, seeing they were not so far apart, and was promptly told off! Never mind, when the newness of his ticket has worn off he will come good and be only too glad, I hope, to have his array checked against the other locals.

Talking of beams, don't know just what has happened to my beam, seems to work every other State except the locals in Townsville, they never seem to hear me calling them, even when the beam is pointed at their QTH. Maybe in writing the notes, have not given them sufficient write-up, or is it my W.I.A. activities?

Claude 4UX's second class in Ayr is off to a flying start with seven aspirants. The way he is going will soon catch up, in the local club and will be able to have the balance of power and hold alternate meetings at Ayr. The 50 Mc. boys avidly listening to the pulse stations just below the band edge and will not be long before the JA and KH6 are breaking through. Private advise from Hawaii speak of their pointing arrays in our direction awaiting favourable conditions. The other islands to the north are also hoping to break through and make first contact with Australia on this band.

Visitors to town recently included ZL1UR, who hopes to get on the air shortly as he has taken a job locally, also Roy VK3ND, who promised to call last Friday 3 p.m. and did not arrive, after I had knocked off painting and had a cuppa awaiting. Shame on you, Roy. Really wanted to entertain you as a small gesture of the welcome of my recent visit to VK3 land.

"Casey" Pansies are nice flowers, not like the shrinking violet? 73, Bob 4RW.

MARYBOROUGH

The July meeting of the Wide Bay and Burnett Branch was held at Maryborough. Hams 4GH, 4CB, 4BG, 4SW, 4XR, 4LN and 4HZ were present, plus associate members from Maryborough, Gympie and Bundaberg. President Gordon gave a talk on Class A Amplifiers.

Barry 4LN now has a SX101 receiver, and Max 4HD, now at his new QTH, has an English "Racal". 4SW was appointed Treasurer in place of 4DJ who has gone to VK9.

Discussion took place about provision of equipment for checking t.v.i. Being a remote fringe area, t.v. signals are measured in microvolts and t.v.i. troubles are accentuated.

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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division, the Division with the "mostest," was held for the month of July in the new clubrooms at the St. Paul's Church Parish Hall, to a capacity audience of members and visitors. The guest speaker for the night was Mr. E. McGrath (5MO), who is also one of the trustees for the Division, and his subject was a general discussion on the technical side of ABS2, together with some fast work on the blackboard and colored slides; incidentally, a work of art in themselves.

The audience was given an insight into the layout and techniques that have been employed at Channel 2, lasting for more than two hours, and I can honestly say that during this period one could have heard a pin drop, so interesting and informative was the talk. When one considers the short notice that was given to the guest speaker to prepare his talk, and also the amount of ground covered in the talk, then I think we can say without fear of contradiction that it was one of the best nights that the members have had for a long time, and a very satisfactory opening to our new clubrooms.

The vote of thanks to the speaker was proposed in a very able manner by Keith 5KH and the enthusiastic response on the part of members present should, in a small way, compensate Mr. McGrath for the obvious hard work that he had put into preparing the night's entertainment. To the two gentlemen, unheralded and unsung, who assisted the lecturer during the night, we say accept our thanks, and who knows, we might be able to do the same for you one day.

It was fairly late before general business came on, and as at least two-thirds of the audience departed at the end of the talk for their couch of virtue, well, their couch anyway, very little of any importance was discussed, and the Acting Chairman, John 5LC, had a fairly easy time for his first seat in the chair, the usual chairman, Lloyd 5OK, being absent due to his XYL recovering from a recent operation. Among the welcome visitors were Jeff, or is it Geoff, 2AHM, from Wentworth, Bram 5AB from the South East, and Rod 2CN who apparently signed his name in the visitors' book with his left foot. The meeting concluded at a little past eleven p.m., and all in all, the meeting night was voted as an auspicious opening for the new clubrooms, and so say all of us.

It may come as a surprise to many to know that the new clubrooms are built on one of my early stamping grounds. I was in my early youth a choir boy in St. Paul's Church, and during the meeting I had several nostalgic impressions of my little cherubic countenance flitting around the room. If I had the time, and the Editor could be relied upon to forget his little red pencil (I've just bought a new, large one.—Ed.), I could tell you a few of the little incidents generally associated with those innocent, sweet, pure little so-and-so's, choirboys. Of course I was an exception which proves the rule, and I can always remember the minister saying to me, after having concluded a searching investigation into the reason for my turning the organ motor off in the middle of the anthem, that he had never thought it possible that one choirboy could look so angelic in a cassock and surplice, and yet manage to get tangled up in so many sticky situations. Praise has never bothered me, and I am still as pure as driven slush, true as true. But then, I don't need to tell you that, do I?

Luke 5LL heard on the air the other Sunday morning bemoaning the fact that his t.v. set was picking up his contacts on 80 mx better than his receiver. A new form of stereo, I presume, but not altogether appreciated by the viewers. At the moment of writing he is about to set off in his new automobobble for an extended tour through the western districts of VK3.

Wally 5DF is now settled in at Leigh Creek and has been heard with his usual good signal on 7 Mc. on occasions. Will you miss Port Lincoln Wally? You will miss the water anyway, that I will bet. Gordon 5XU is fast becoming a t.v. personality on Channel 7, in the session called "Funfair". Starting off on the radio in the A.B.C., moving over to ADS7 in connection with Moonwatch activities, he now has a complete segment with special props, sound effects and all mod. cons. All of which confirms my original statement that if you have what it takes, you can't miss out. At least I will be able to say "I knew him when!"

If ever the call-back session of the Divisional broadcast by 5WI on Sunday proved itself, it did on a recent broadcast. Wally 5DF asked for some information on the 10c, and ten minutes later Tom 5TL advised it was in the post, to say nothing of Les 5AX coming up and saying that he had some dope on the subject and had also done several conversions of the 10c. I never get service like that! When I want anything, everybody puts Yale locks on their pockets and start calling DX!

The present stretch of cold weather in VK5 has put a dent in most of the VK3-VK5 skeds that are usually to be found on 7 Mc., either just before the evening meal or just after. However, a couple of hardy regulars were heard the other evening with all the local gossip, etc., etc., and I refer to Carl 5SS and Reg 5MZ. It apparently takes a lot to stop these two from talking over the back fence, and I say more power to it. The number of lasting friendships, made this way, are many, and Amateur Radio would be lost without it.

Frank 5MZ, a member of the abovementioned sked, has been missing on occasions, the reason being no doubt a combination of t.v. and the cold, but I heard for a fact that he also missed out on the tea and scones the other Sunday morning, when he paid his usual visit to Carl 5SS, because he left too early. Carl's XYL was so disappointed that she would not give any of the remaining visitors as much as a smell of the goodies. Now see what you have done, Frank!

Perce 5PH heard on 7 Mc. the other evening in QSO with Charlie 2AXL from Broken Hill. Charlie was home from daily toil, apparently recuperating from a recent operation, and but for the fact that the third warning for tea had sounded for both, the contact would have probably still been going.

The Womera Radio Club (5WC) was heard on the 5WI call-back session last Sunday with an extra good signal, even for them. Nine times out of ten they are good, but this time they excelled themselves. I understand that a new burst of enthusiasm is being felt throughout the membership, probably because they are now well and truly settled in their permanent clubrooms now.

George 5GD heard at times on 7 Mc., sometimes fixed and sometimes mobile, although to be truthful, if he does not say which mode of operation he is using, the strength of the signal more often than not is the same. An old sparring partner of mine, Freddy 5FH, is said to be nibbling at Amateur Radio again, and if this is so, more power to it. He was a tower of strength on c.w. in the old days and there were few c.w. contests that he did not finish high up in the winning list. Ray 5BT has been busy of late owing to the indisposition of his XYL, and could only bob in and out of the last Council meeting. Hope all is well now Ray.

Ken 5IM has been heard mobile in and around Mildura lately, being up that way on holidays. He has the mobile bug badly and his signal certainly tells the story of efficiency much better than mere words of mine. Les 5AX, of the little hamlet of Gawler, is another one who is thinking of going in for a little of the strip tease game of double to single sideband. With the Influence (5EF) also in Gawler, it is not altogether unexpected!

The other day, a Radio Amateur friend of mine, who shall remain nameless for obvious reasons, suggested that I was something of a snob in my attitude towards Amateur Radio and the general public, because only Kings, Princes, Dukes, Maharajahs, Admirals and Brigadier-Generals ever succeeded in getting into the W.I.A. column which appears weekly in the local paper, the Adelaide "Advertiser". Whilst I was able to convince him fairly quickly as to the reason for this unintentional attitude of snobbery, it occurred to me that possibly a number of the readers of the column might have the same idea. For their benefit and also for the benefit of any others who might have the wrong idea, the reason for the column in the paper is to educate the general public into the idea that not all Radio Amateurs are typical of 40 mx, which, after all, is the general public's only personal contact with Amateur Radio, via their short wave band on the b.c. rx. A few minutes' listening into the run-of-the-mill 40 mx working, without fear of contradiction, must leave in the mind of the uninformed listener, an impression of Amateur Radio that is difficult to remove, and that is putting it mildly. Bearing this in mind, the weekly column was written, under instructions from Council, for the sole purpose of drumming into the minds of the Mr. and Mrs. General Public, that the hobby of Amateur Radio was not confined to a particular class of humanity, but was the hobby of the top strata right through to the bottom, like me. Bearing all this in mind, the next time that you read that Maharajah So-and-So, or Admiral Such-and-Such has just constructed a crystal set, don't look for the snob angle, but remember that Mr. and Mrs. G.P. with constant repetition, will remember the Maharajah or Admiral angle much longer than 40 mx, and believe me brethren, in these days of stabs in the back, and sundry expressions of goodwill toward Amateur Radio, we need the general public behind us more than ever.

Ron 5AP from Port Augusta was heard testing on 7 Mc. the other day, and with this in view I feel that I can safely say that he is now active on the air. Reg 5RR was seen at the meeting and my spies tell me that he has discarded one of his double sidebands and is now single. I have heard him once or twice but cannot definitely say whether he was double or single. Tom 5AQ is nibbling at single sideband but his mobile gear is claiming his full attention at the moment; working f.b. I am told. Graeme 5XV has deserted the haunts of his early days on the air and can now be found on 50 Mc. Quite an aerial farm sprouting up from the roof of his QTH, although one of the schoolboys going past did say, "What a beaut. t.v. aerial!"

Les 5UX, better known as "Uncle Xray," has neither been seen nor heard for some considerable time and his many friends in the "big smoke" are becoming anxious. Speak up, Les, even if you only have a wingo. Ian 5IW has been heard on 7 Mc. using Gordon's (5XU) 122. When heard was sure putting out a good signal and having no trouble for contacts. Pat 5LT is once again back on his beloved 14 Mc. band and fully enjoying it, although I must admit that his signal sounds a lot more powerful from the foothills than it used to sound to me from Port Lincoln.

Ron 5MK has been heard on 6 mx mobile at various times lately, and it is well worth listening to. This is the second v.h.f. mention that I have made in these notes this month; I should be claiming danger money. Harry 5MY has escaped my eagle eye at the meetings lately, although I know he is well

and hearty because I have bumped into him a couple of times at the gee-gee's, in the course of our mutual duties, of course. I wouldn't know which end they feed a race-horse.

Frank 5MZ hits the headlines this month with the news of the exploding of an acetylene torch that he was using. His arms and face were burnt, he had to take time off from work, and as this episode closely follows the injury to his toe, it would seem that his stars are not in the right orbit or something. There is not a vestige of truth in the rumour that he was trying to squeeze the last watt out of the torch when it blew up! What is the equivalent for watt in acetylene gas? the footlumin?

Les 5ZCI is reported to be exhibiting an unhealthy interest in the activities of Moonwatch. Les, do you want to grow up like Gordon 5XU and that joker Hugo from VK2? Let that be a warning to you, it could happen to you!

It was with regret and sadness that we read in the daily paper this month of the sudden passing of the XYL of Joe 5JO. Well known for her activities in recent years on the social side of the VK5 Division, especially at the annual picnics, she had a heart of gold, even bigger than Joe's, and her passing will be regretted by all with whom she came in contact. Words at such a time as this mean nothing, and we can only say "Keep your chin up, Joe."

Pete 5FM at the moment of writing is holidaying somewhere in the wilds of VK3, and has been heard mobile from various places. When I heard the signal peeping through the din, I thought I must be hearing things, but then I heard him being called and realised that he was real, although in VK3. Charlie 5ON is back on the air again after a short holiday from all bands. For mine, when they told me that he had given the game away, I didn't believe it, and apparently I was right. The old hobby has too big a grip.

Despite the wintry weather there was a good roll-up at the monthly meeting of the South-East group, two enthusiastic visitors coming all the way from Tantanoola, and a good time was had by all. Luke 5LL passed through the Mount on the way home from the Eastern States, and Pete 5FM passed through on the way to VK3 and VK3. Stuart 5MS is awaiting some dry weather to paint some new poles. The antenna will spread over a couple of blocks and only goes to prove that he is on good terms with his neighbours. Claude 5CH has been heard on 7 Mc. a few times this month, but has been busy as usual. He met Luke and Pete whilst they were in the Mount.

Tom 5TW has had a fairly quiet month and is limbering up for the R.D. Contest. Noticed his genial countenance in the local paper the other day, receiving his certificate for twenty-five years in the broadcasting industry; nice work, Tom. Erg 5KU has been carrying out the annual maintenance to the beam, drive motor and indicators, plus a little judicious oiling of the dot-dash key! Leo 5GJ has been heard frequently on 2 mx, which could be taken as a good indication of activity to come. Dave 5AW has been sending 288 Mc. signals down to the Mount from Penola, and with the consistent daily reception of the signals by Col 5CJ, it would appear that this path is always open.

Col 5CJ, as aforementioned, is mixing v.h.f. and h.f. working at the drop of a hat. He has been returning the compliment by sending 144 Mc. signals back to Dave at Penola each day, to enable Dave to align a new converter. He has built a Monimatch, Mark II., and can really recommend it. Pastor Ron Holmes has almost reached the stage of applying for a call sign, but is finding that his new church is taking a large slice of his time, and of course, "First things must come First." Dave Wood, who is at the local b.c. station, 5SE, has applied for membership in the VK5 Division, and we hope the next move will be for a call sign. Nice to meet you, Dave.

Things fairly quiet around Elizabeth this month, which is all to the good for me as news flowed in from all directions this month, and the Editor, may his shadow never grow less, is casting longing eyes at the famous red pencil, but I must mention the Elizabeth Award which is available to all Radio Amateurs who can produce proof, not necessarily QSL cards, of six contacts with Amateurs resident in Elizabeth, and for those in Australia, eight contacts with Amateurs in Elizabeth. V.h.f. or a contact with a member of the Elizabeth Radio Club will count as two toward the certificate. DX contacts as well as local applicants should send two I.R.C. coupons, and don't bother to send QSL cards, just send details of contacts which can be checked with logs. If any further particulars are wanted, contact Ron 5FY or Tubby 5NO.

WESTERN AUSTRALIA

Congratulations go out to 6RX and 6YL on the arrival of their baby daughter and we hope she has a long and happy life, also we hope to see 6YL back on the air very soon to tell us all what the new harmonic looks like.

A number of new members were accepted into the Institute at the monthly general meeting of which one new member was 6KS, ex-3GO, who was present at the meeting and received a welcome from all present.

6KW reported that the Government is forming a committee to look into the findings of the I.T.U. and to see how they affect the frequency allocations.

It was decided, after a short debate, that a committee be formed by the S.w.l. Group of its members in the Institute to draw up a plan of activities and report to the Institute, the members elected to form the committee were Mr. and Mrs. Hardwick and Mr. Price. After the election of this committee, Mr. Hardwick, who has been, I think I can say, the most active s.w.l. in VK6 for many years, gave us a talk on the past activities of the S.w.l. Group. I think I can speak for everybody present and say that it was very interesting and also very pleasing to see that we have a Group within us now devoting themselves to the building of new Amateurs through s.w.l. interests. Keep up the good work, Eric and Rose, and I'm sure the W.I.A. will help you all they can. Don't forget "Amateur Radio." Please contribute to the VK6 notes to make this column more interesting to read.

It was very nice to see Francis 6WD also at the meeting and there should be more country members present at these meetings during the year as I know we all like to have a picture of the other chap in our minds when we are talking to him.

I think, chaps, that this will be the last reminder for anyone who has not yet submitted their logs for the R.D. Contest to do so right away to Jim 6RU, the deadline is Friday, 2nd September, and we have great hopes of regaining the trophy from VK7.

The newly formed Western Australian branch of the Telecommunications Society is looking for members, what about it, fellows. This Society has been in existence in the Eastern States for some time, its aim is the diffusion of the knowledge of Telecommunications, Broadcasting, and T.V. services of Australia and these will be provided by lectures, discussions and visits to places of interest and also by the medium of the Society's journal, "The Telecommunications Journal of Australia." The annual fee of which is 10/- and the membership is 2/- per annum. The meetings and lectures are to take place every second month commencing from 4th August, at the Technician Training School, Cr. Lord and Parry Streets, East Perth. The date and time of the October meeting will be published at a later date and the lecture for that meeting will be "Communications throughout the Department of Civil Aviation" by the representatives of that administration.

Well chaps, 72 for now and here is hoping we have the R.D. Contest in the bag.

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TASMANIA

My personal thanks are due to Joe 7BJ and Ken 7KA and young Norman Millin for erecting my new half wave 80 mx antenna on 40 ft. poles. My new antenna coupler, of the type described in "QST," February 1958, will also be in operation early in August. Thanks, chaps, for a good job very well done. Bob 7OM and his XYL spent August in Queensland on holidays and we hope that you both benefited from it. Pat 7GV has been heard on 7 Mc. for the first time. We hope to hear a lot more of you, Pat. We were sorry to learn of the death of our Associate Member, Alf Males, who died on 7th May last.

Charlie 7KS has been conducting the Sunday morning Institute broadcast during the month of July in the absence of Jack 7JB who had planned to re-build his tx during that time with a view to t.v.i. proofing it. Jack's plans, however, were not fulfilled to the extent that he has not yet re-built, due largely to the fact that he has been viewing the one-eyed monster with great pleasure. Jack has also been building a hi-fi set using EL84s, and we hope you are satisfied with its performance.

Ken 7KA is very pleased, now he has completed the digging out of his workshop under his house. He hopes now to be able to get on to the problem of remedying the loss of grid drive to his 813 final. Snowy 7CH has almost finished the re-building of his tx, intending mainly to confine it in a smaller space. His next task is then to erect a suitable antenna system.

Conditions on the DX bands during July have been about as bad as I have ever experienced. The 80 mx band has been the only redeeming feature, and it has been very pleasant to find so many chaps appreciating the virtues of this band. It was nice to hear at least four VK7 stations swopping numbers with the ZLs during their Memorial Day Contest in mid July. VKs 7SM, 7WA and 7AG joined me in this respect.

Our August meeting was privileged to visit VIH for an inspection of the equipment up there. There were many bits and pieces up there which would have graced shacks around Hobart, but Bill 7YY kept an eagle-eye on the assembled company and their pockets. Thanks Bill for a pleasant evening.

NORTH WESTERN ZONE

Another business year has passed and our Annual Meeting was held on August 2 at the usual QTH. There were 19 members present and everything went with a swing. Minutes of appropriate meetings were read and Frank 7FH gave his report of progress and occurrence during the year.

Election of officers produced some changes with Max 7MX as our new President and David 7MS as Secretary. Allan Baptiste still carries on as Treasurer and Bob 7ZAI is the new V.h.f. Officer. Ellis 7WA will still be handling the QSL business and yours truly (7TT) will still be endeavouring with your help, I hope, to find something to write about.

Progress is at last being steadily made with the construction of the radio gear for the Burnie Fire Brigade. The mobile units are practically completed and the construction of the Base Station is well under way.

Supper was disposed of as usual, so also was a goodly collection of surplus junk and zone funds benefited satisfactorily.

The R.D. Contest is over for yet another year and I sincerely hope all VK7s not only participated but duly forwarded their logs to Headquarters.

David 7MS built a "bird cage" for 80 mx and attempted to erect same on top of a 50 ft. mast. Bad luck David it looked more like one of those weeping roses the day I saw it; I believe David was at the top of the mast, too, when said cage decided to change its position.

THE MAN SAID REPLACE IT WITH A NEW Super RADIOTRON PICTURE TUBE

I'm a teenager, and although my parents don't seem to appreciate it, I always enjoy curling up to watch TV when I get home in the evening.

That's why our old picture tube used to get me so mad by always flickering right in the middle of my favourite shows.

Anyhow, it broke down completely the other day, and I told Dad to be sure and get the repair man to give us a good picture tube that wouldn't flicker and fade all the time.

Good old Dad—he got the best picture tube for sure, and the TV hasn't played up since. I asked him what the repair man had done and Dad said that when he'd told the man that he wanted the most reliable picture tube available, the man said, *"Replace it with a Super Radiotron Picture Tube."*

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